SONY

VAIO® Notebook User Guide

PCG-XG28/PCG-XG28K/PCG-XG29/PCG-XG29K

Notice to Users

© 2000 Sony Electronics Inc. All rights reserved. This manual and the software described herein, in whole or in part, may not be reproduced, translated, or reduced to any machine-readable form without prior written approval.

SONY ELECTRONICS INC. PROVIDES NO WARRANTY WITH REGARD TO THIS MANUAL, THE SOFTWARE, OR OTHER INFORMATION CONTAINED HEREIN AND HEREBY EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH REGARD TO THIS MANUAL, THE SOFTWARE, OR SUCH OTHER INFORMATION. IN NO EVENT SHALL SONY ELECTRONICS INC. BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, WHETHER BASED ON TORT, CONTRACT, OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THIS MANUAL, THE SOFTWARE, OR OTHER INFORMATION CONTAINED HEREIN OR THE USE THEREOF.

Sony Electronics Inc. reserves the right to make any modification to this manual or the information contained herein at any time without notice. The software described herein is governed by the terms of a separate user license agreement.

This product contains software owned by Sony and licensed by third parties. Use of such software is subject to the terms and conditions of license agreements enclosed with this product. Some of the software may not be transported or used outside the United States. Software specifications are subject to change without notice and may not necessarily be identical to current retail versions.

Updates and additions to software may require an additional charge. Subscriptions to online service providers may require a fee and credit card information. Financial services may require prior arrangements with participating financial institutions.

As an ENERGY STAR Partner, Sony Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

The International ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles and copiers. Their standards and logos are uniform among participating nations. ENERGY STAR is a U.S. registered mark.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Sony, i.LINK, VAIO, Media Bar, Jog Dial, DVgate, PictureGear, Handycam, and the VAIO logo are trademarks of Sony Corporation. Windows NT, the Windows 98 logo and the Windows 2000 logo are registered trademarks of Microsoft Corporation. Intel, Pentium, and SpeedStep are trademarks of Intel Corporation.

All other trademarks are trademarks of their respective owners.

Safety Information

Owner's Record

The model number and serial number are located on the bottom of your Sony VAIO Notebook. Record the serial number in the space provided here. Refer to the model and serial number when you call your Sony Service Center.

Model Number: PCG-8411 / PCG-8412 / PCG-8401 / PCG-8402

Serial Number:_____

WARNING

- To prevent fire or shock hazard, do not expose your notebook to rain or moisture.
- To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
- Never install modem or telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using the modem during an electrical storm.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.
- A socket outlet should be as close as possible to the unit and easily accessible.

! **The use of optical instruments with this product will increase eye hazard. As the laser beam used in this product is harmful to the eyes, do not attempt to disassemble the cabinet. Refer servicing to qualified personnel only.**

! **DANGER: Visible and invisible laser radiation when open. Avoid direct exposure to beam.**

AVERTISSEMENT

- Pour prévenir tout risque d'incendie ou d'électrocution, garder cet appareil à l'abri de la pluie et de l'humidité.
- Pour prévenir tout risque d'électrocution, ne pas ouvrir le châssis de cet appareil et ne confier son entretien qu'à une personne qualifiée
- Ne jamais effectuer l'installation de fil modem ou téléphone durant un orage électrique.
- Ne jamais effectuer l'installation d'une prise téléphonique dans un endroit mouillé à moins que la prise soit conçue à cet effet..
- Ne jamais toucher un fil téléphonique à découvert ou un terminal à moins que la ligne téléphonique n'ait été débranché de l'interface réseau.
- Soyez très prudent lorsque vous installez ou modifiez les lignes téléphoniques.
- Évitez d'utiliser le modem durant un orage électrique.
- N'utilisez pas le modem ni le téléphone pour prévenir d'une fuite de gaz vous êtes près de la fuite.
- L'appareil doit être le plus près possible d'une prise murale pour en faciliter l'accès.

! **Comme le faisceau laser utilisé par cet appareil est dangereux pour les yeux, ne tentez pas de démonter le boîtier. Confiez l'entretien de cet appareil exclusivement au personnel qualifié. Adressez-vous a un agent de service qualifié.**

! **DANGER : Radiation laser visible et invisible si ouvert. Evitez l'exposition directe au faisceau.**

If you have questions about this product, you can reach the Sony Customer Information Service Center at 1-888-4SONYPC; or write to the Sony Customer Information Service Center at 12451 Gateway Blvd., Ft. Myers, FL 33913 or find

Sony Customer Service on the web at:
http://www.sony.com/pcsupport

The number below is for FCC related matters only.

Regulatory Information

Declaration of Conformity

Trade Name:	SONY
Model No.:	PCG-8411/PCG-8412/ PCG-8401/PCG-8402
Responsible Party:	Sony Electronics Inc.
Address:	1 Sony Drive Park Ridge, NJ 07656
Telephone:	201-930-6972

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class B limits may be attached to this computer product. Operation with non-compliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded, may result in interference to radio and television reception.

FCC Part 68

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is a label that contains, among other information, the FCC equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This modem uses the USOC RJ-11 telephone jack.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operations of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, you can reach the Sony Customer Information Service Center at 1-888-4SONYPC; or write to the Sony Customer Information Service Center at 12451 Gateway Blvd., Ft. Myers, FL 33913 or find Sony Customer Service on the web at: http://www.sony.com/pcsupport

Repair of this equipment should be made only by a Sony Service Center or Sony authorized agent. For the Sony Service Center nearest you, call 1-888-4SONYPC (1-888-476-6972).

This equipment cannot be used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state and possible provincial tariffs. (Contact the state or provincial utility service commission, public service commission or corporation commission for information.)

Telephone Consumer Protection Act of 1991 (United States)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your facsimile machine, see your fax software documentation.

Telephone Consumer Guidelines (Canada)

Please refer to your telephone directory under 'Privacy Issues' and/or 'Terms of Service.' For more detailed information please contact:

CRTC

Terrasses de la Chaudière, Tour centrale 1 promenade du Portage, 5ième étage Hull PQ K1A 0N2.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

DISPOSAL OF LITHIUM ION BATTERY

You can return your unwanted lithium ion batteries to your nearest Sony Service Center or Factory Service Center.

In some areas the disposal of lithium ion batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you call 1-888-476-6972 in the United States or 1-800-961-7669 in Canada.

! Do not handle damaged or leaking lithium ion batteries.

! Ne pas manipuler les batteries au lithium-ion qui fuient ou sont endommagées.

! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

! Une batterie non conforme présente un danger d'explosion. La remplacer seulement par une batterie identique ou de type équivalent recommandé par le fabricant. Évacuer les batteries usées selon les directives du fabricant.

! The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 212×F (100×C) or incinerate.
Dispose of used battery promptly. Keep away from children.

! La manutention incorrecte du module de batterie de cet appareil présente un risque d'incendie ou de brûlures chimiques. Ne pas démonter, incinérer ou exposer à une température de plus de 100°C. Évacuer promptement la batterie usée. Garder hors de portée des enfants.

INDUSTRY CANADA NOTICE

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection.

The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Equipment malfunctions or any repairs or alterations made by the user to this equipment may give the telecommunications company cause to request that the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5. The Ringer Equivalence Number for this equipment is 0.3.

AVIS DE L'INDUSTRIE CANADA

AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué.

Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce materiel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le materiel doit egalement être installé en suivant une méthode acceptée de raccordement.

L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface.La terminaison d'une interface téléphonique peut consister en une combination de quelques dispositifs, a la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5. L'indice d'équivalence de la sonnerie de ce materiel est de 0.3.

Contents

Welcome 1

Features 1

Unpacking Your VAIO® Notebook 2

Manuals 2

Software CDs 3

Recovery CDs 3

Other 3

Setting Up Your VAIO® Notebook 5

Ergonomic Considerations 5

Locating the Controls and Connectors 8

Front 8

Left 9

Right 10

Back 10

Bottom 11

Connecting a Power Source 12

Using the AC Adapter 12

Notes on the AC Adapter 13

Using Battery Power 13

Starting Your Computer 19

Shutting Down Your Computer 20

Closing the Front Panel 21

Handling the LCD Screen 22

Using the Keyboard 23

Combinations and Functions with the Windows Key 25

Indicators 26

Combinations and Functions with the Fn Key 27

Using the Touchpad 29

Using the Floppy Disk Drive 30
To use as an external drive 30
To use as an internal drive 31
Using the DVD-ROM Drive 35
To remove the DVD-ROM drive (Windows 98® models) 37
To insert the DVD drive 39
Using PC Cards 40
Removing the optional hard drive PCGA-HDX10 44
VAIO Action Setup 45
Jog Dial™ Control 45
Using the Jog Dial Control 45
Software that does not support the Jog Dial Control 47
Internal Timer 48
i.LINK® Interface 48
Using Smart Connect 49
Using Infrared Communication Devices 50
Using Power Saving Modes 52
Normal Mode 52
System Idle Mode 52
System Suspend Mode 53
System Hibernation Mode 53
Using a Second Battery Pack 54
Using the Weight Saver 57

Connecting Peripheral Devices 59

Connecting a Phone Line 60
Connecting the Mini Docking Station 61
Connecting a Printer to the Mini Docking Station 66
Connecting an External Mouse or Keyboard 67
Connecting a Floppy Disk Drive to the Mini Docking Station 69
To connect a floppy disk drive 69
Connecting AV Devices 70
To connect an MD deck or a CD player 70
To connect a CD player, an active speaker, or an amplifier 71
To connect a Dolby Digital™ Decoder integrated device (Windows 98 only) 72
To connect a TV or a video deck 73

Connecting a Printer to Your Computer 74
Before using the printer 74
To connect a printer 74
Connecting an External Display 76
Connecting External Speakers 78
Connecting an External Microphone 79
Connecting an i.LINK®-compatible Device 80
Connecting a Universal Serial Bus (USB) Device 81

About Your Software 83
MovieShaker™ 83
Importing Images and Sound Clips 83
Create a Movie using Shaker 84
Editing Clips and Scenes 85
Saving a Movie 86
PictureGear™ 87
Managing Your Pictures 87
Creating a Photo Album 87
Using Panorama Maker 88
Making Still Images and Panoramic from MPEG 88

Getting Help 89
Troubleshooting 91
Power Management 98
Using the System and Application Recovery CDs 99
Using the System Recovery CD(s) 99
Using the Application Recovery CD(s) 101
Replacing a Keycap 102
To replace a keycap 102
Adding Memory 103
On handling the display filter 108
Specifications 109

Index 113

Welcome

Congratulations on your purchase of the Sony VAIO® notebook. Sony has combined leading-edge technology in audio, video, computing, and communications to provide you with state-of-the-art personal computing.

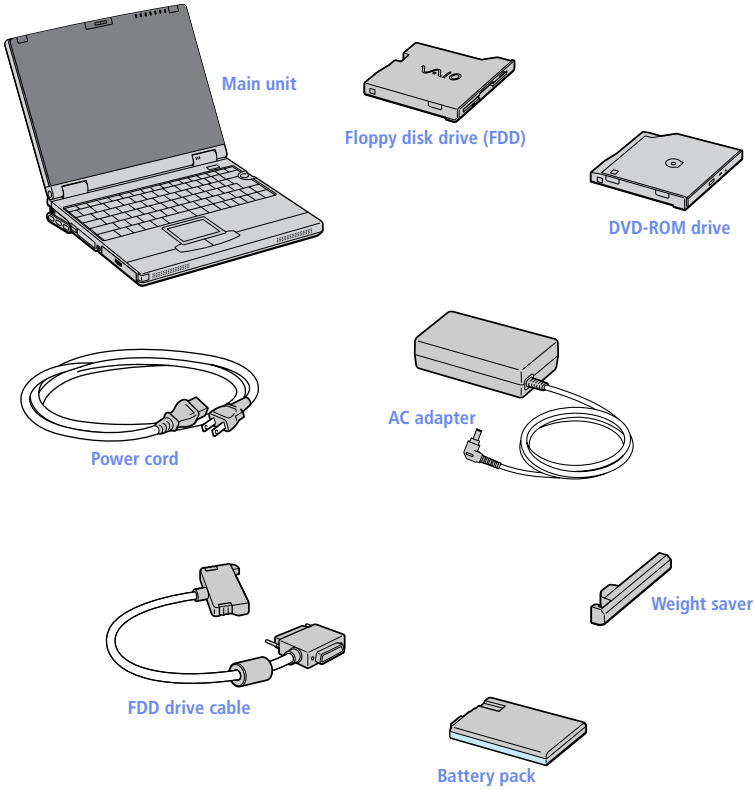
Features

For a complete description of the specifications of your VAIO® notebook, see page 109.

- **Exceptional performance:** Your computer includes a Mobile Intel® Pentium® III Processor featuring Intel® SpeedStep™ technology.
- **Portability:** The rechargeable battery pack provides hours of use without AC power.
- **Sony audio and video quality:** A high-resolution LCD screen enables you to take advantage of today's advanced multimedia applications, games, and entertainment software.
- **Microsoft® Windows® Operating System:** Your system includes Windows® 98 Second Edition or Windows® 2000 Professional.
- **Communications:** Access popular online services, send and receive e-mails, browse the Internet, and use the dialing and fax features.

Unpacking Your VAIO® Notebook

Remove the following hardware items from the box:



Manuals

- The *VAIO® Notebook User Guide* (this manual) contains information on how to get the most from your computer, find help, and solve common problems. It also includes product specifications.
- *Read Me First* contains Frequently Asked Questions, the most up-to-date information on using your computer, and software information.
- The Microsoft® Windows® 98 Second Edition *Getting Started*/ Windows® 2000 Professional *Getting Started* manual explains how to use the basic features of the Windows® operating system.

Software CDs

- Microsoft® Word 2000

Recovery CDs

- System Recovery CD(s)
- Application Recovery CD(s)

Other

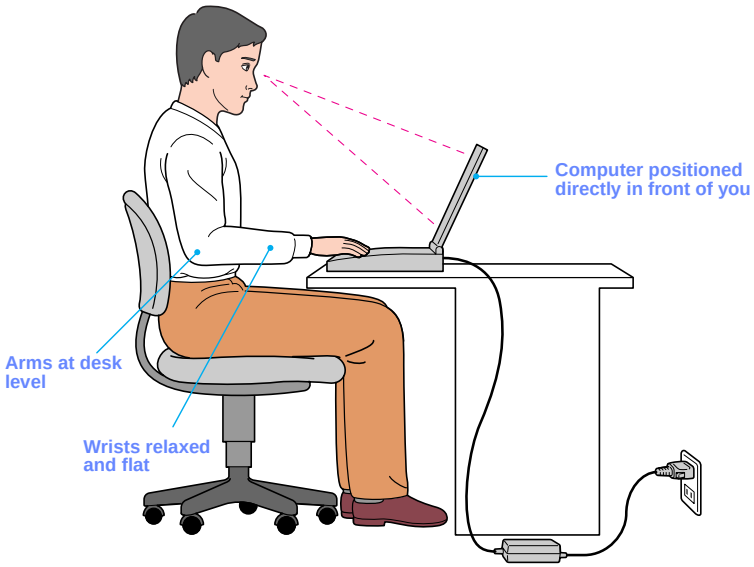
- Setting up your VAIO® Notebook (poster)
- Packet containing special product offers

Setting Up Your VAIO® Notebook

This section describes how to start using your computer and how to use your computer's internal and external devices, such as the touchpad, floppy disk drive, and DVD-ROM* drive.

Ergonomic Considerations

You will be using your notebook computer as a portable device in a variety of environments. Whenever possible, you should attempt to apply the following ergonomic considerations to both stationary and portable environments.



- **Position of your computer –** Place the computer directly in front of you as you work. Keep your forearms horizontal, with your wrists in

* Some specially-configured models come with a CD-RW drive instead of a DVD-ROM drive.

a neutral, comfortable position while using the keyboard, touchpad, or external mouse. Let your upper arms hang naturally at your sides. Take breaks during sessions with your computer. Excessive use of the computer may strain muscles or tendons.

- **Furniture and posture –** Sit in a chair with good back support and armrests. Adjust the level of the chair so your feet are flat on the floor. A footrest may make you more comfortable. Sit in a relaxed, upright posture and avoid slouching forward or leaning far backward.
- **Viewing angle of the computer's display –** Use the display's tilting feature to find the best position. You can reduce eye strain and muscle fatigue by adjusting the tilt of the display to the proper position. Adjust the brightness setting of the display also.
- **Lighting –** Choose a location where windows and lights do not create glare and reflection on the display. Use indirect lighting to avoid bright spots on the display. You can also purchase accessories for your display that help reduce glare. Proper lighting adds to your comfort and work effectiveness.
- **Placement of an external display –** When using an external display, set the display at a comfortable viewing distance. Make sure the display screen is at eye level or slightly lower when you are sitting in front of the monitor.

Notes on Setup

- Do not place your computer in a location subject to:
  - Heat sources, such as radiators or air ducts
  - Direct sunlight
  - Excessive dust
  - Moisture or rain
  - Mechanical vibration or shock
  - Strong magnets or speakers that are not magnetically shielded
  - Ambient temperature of more than 95º F (35º C) or less than 18º F (10º C)
  - High humidity
- Do not place electronic equipment near your computer. The computer's electromagnetic field may cause a malfunction.

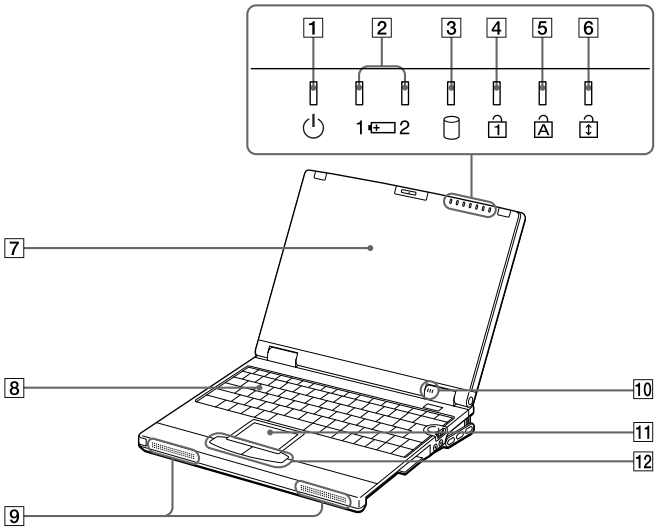
- Provide adequate air circulation to prevent internal heat buildup. Do not place your computer on porous surfaces such as rugs or blankets, or near materials such as curtains or draperies that may block its ventilation slots. Leave a space of at least 8 inches (20 cm) behind the back panel of the computer.
- If the computer is brought directly from a cold location to a warm one, moisture may condense inside your computer. In this case, allow at least an hour before turning on your computer. If any problems occur, unplug your computer, and contact your Sony Service Center.
- The computer uses high-frequency radio signals and may cause interference to radio or TV reception. Should this occur, relocate the computer a suitable distance away from the set.
- Use only specified peripheral equipment and interface cables; otherwise, problems may result.
- Do not use cut or damaged connection cables.
- Your computer will not work with party lines, cannot be connected to a coin-operated telephone, and may not work with multiple phone lines or a private branch exchange (PBX).
- If the telephone company makes a service call to your home or office and determines that your computer is responsible for a problem, the telephone company may bill you for the service call. Also, if you do not disconnect your computer when it is adversely affecting the telephone line, the telephone company has the right to disconnect your service until you correct the problem.

Handling Your Notebook

- Clean the cabinet with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent such as alcohol or benzine, as these may damage the finish of your computer.
- Should any solid object or liquid fall into the computer, shut down your computer and then unplug it. You may want to have the computer checked by qualified personnel before operating it any further.
- Do not drop the computer or place heavy objects on top of the computer.

Locating the Controls and Connectors

Front



1 Power indicator (pages 19, 53)

2 Battery 1 and 2 indicators (pages 15, 26)

3 Hard disk drive indicator (page 26)

4 Num Lock indicator (page 26)

5 Caps Lock indicator (page 26)

6 Scroll Lock indicator (page 26)

7 LCD (Liquid Crystal Display) screen (pages 21, 27)

8 Keyboard (page 23)

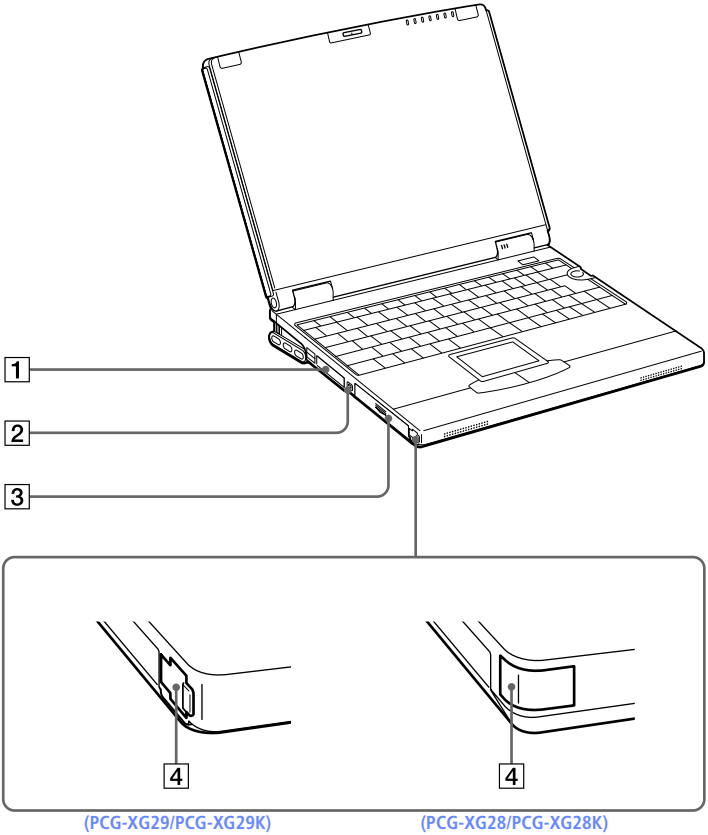
9 Speakers (pages 27, 94, 95)

10 Internal microphone

11 Touchpad (page 29)

12 Left/right buttons (page 29)

Left



(PCG-XG29/PCG-XG29K) (PCG-XG28/PCG-XG28K)

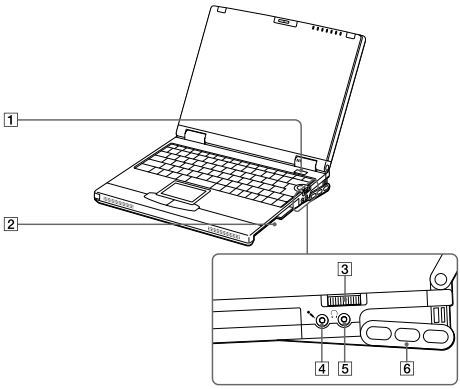
1 PC card slots (page 40)

2 i.LINK® S400 connector (page 80)

3 Battery bay (page 13)

4 Phone line jack (page 60)

Right



1 Power button (page 19)

2 Multipurpose drive bay (pages 30, 54)

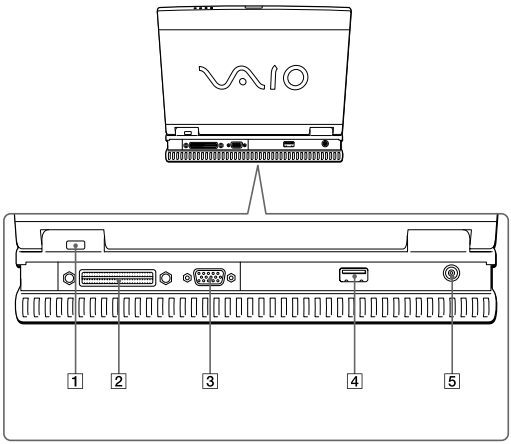
3 Jog Dial control (page 45)

4 Microphone connector (page 79)

5 Headphone connector (page 78)

6 Intercooler flap

Back



1 Infrared port connector (page 50)

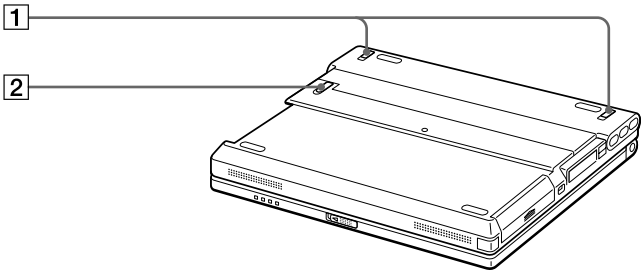
2 Docking /Floppy disk drive connector

3 Monitor connector (page 76)

4 USB connector (page 81)

5 DC In connector (page 12)

Bottom



1 Intercooler flap lever

2 Multipurpose drive bay RELEASE lever

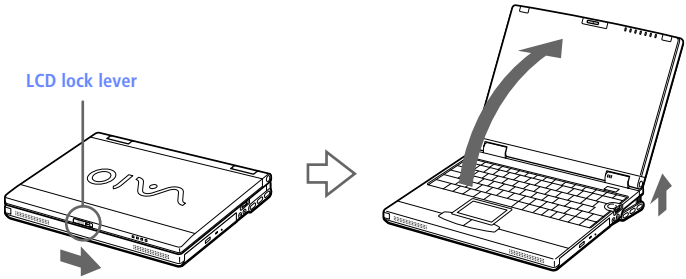
Notes on cleaning Your notebook

- Make sure to disconnect the power cord before cleaning the computer.
- Avoid rubbing the LCD screen as this can damage the screen. Use a soft, dry cloth to wipe the LCD screen.
- Clean the computer with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzine.

Connecting a Power Source

You can use either AC power or a rechargeable battery pack as a power source.

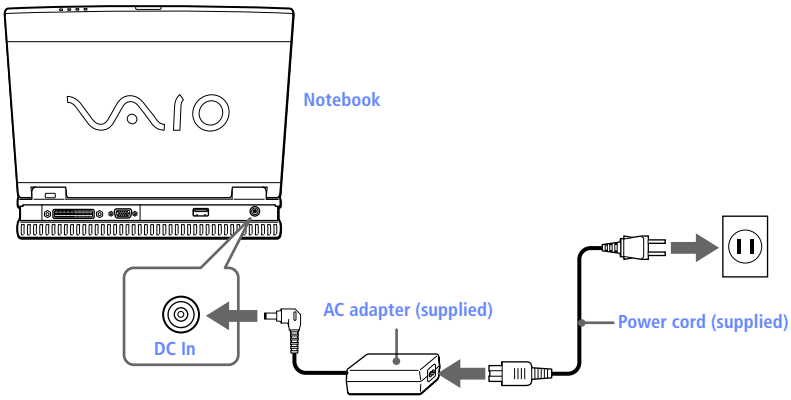
Using the AC Adapter



1 Plug the cable attached to the AC adapter into the DC In connector on the computer.

2 Plug one end of the power cord into the AC adapter.

3 Plug the other end of the power cord into an electrical outlet.



Notes on the AC Adapter

- Your computer operates on 100V-240V AC 50/60 Hz.
- Do not share the AC outlet with other power-consuming equipment, such as a copy machine or shredder.
- You can purchase a power strip with a surge protector. This device prevents damage to your computer caused by sudden power surges such as those that may occur during an electrical storm.
- Do not place heavy objects on the power cord.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Unplug your computer from the wall outlet if you will not be using the computer for a long time.
- When the AC adapter is not used, unplug it from the AC outlet.
- Use only the AC adapter supplied. Do not use any other AC adapter.

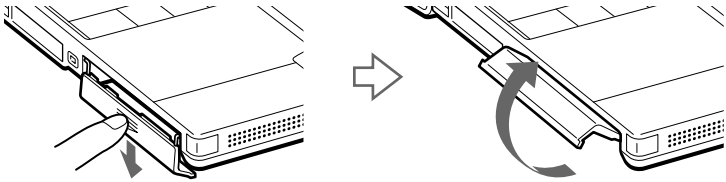
Using Battery Power

You can use one or two battery packs as a source of power. The second battery pack inserts into the drive bay on the right side of the computer. (See “Using Power Saving Modes” on page 52.) Additional battery packs are available as a separate option.

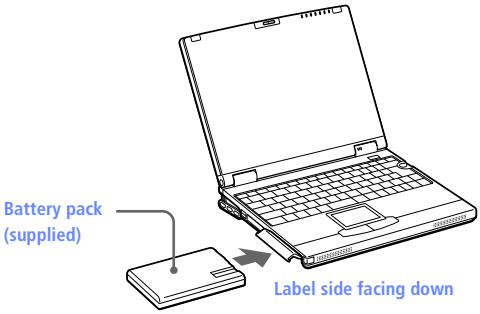
The battery pack that comes with your computer is not fully charged at the time of purchase. Follow the steps below to insert and charge the battery pack.

To insert the battery pack

1 Open the cover of the battery bay on the left side of the computer.



2 Insert the battery pack into the battery bay.



3 Close the cover of the battery bay until it clicks.

While attaching the Mini Docking Station to your computer, do not insert or remove the battery pack. Lifting and turning the computer with the Mini Docking Station attached may cause the Mini Docking Station to disconnect from the computer.

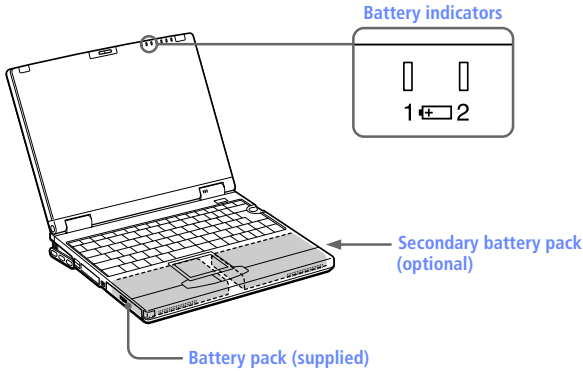
To charge the battery pack

1 Connect the AC adapter to the computer.

2 Insert the battery pack.

The computer automatically charges the battery (the battery indicator light flashes in a double blink pattern as the battery charges). When the battery is 85% full, the battery indicator light turns off. This process takes approximately two hours. To charge the battery completely, continue charging for an additional hour. See "Displaying Detailed Battery Information" in the online manual *Customizing Your VAIO® Notebook*.

There are two battery indicator lights on the computer:



Battery Indicator	Meaning
1	Indicates the status of the battery pack in the battery bay on the left side of the computer.
2	Indicates the status of the battery pack in the drive bay on the right side of the computer.

Battery Indicator Light Status	Meaning
On	The computer is using battery power.
Single blink	When BOTH the Battery indicator and Power indicator single-blink, the battery is running out of power.
Double blink	The battery is charging.
Off	The computer is using AC power.

To determine the amount of time the battery lasts, see "Displaying Battery Information" in the online manual *Customizing Your VAIO® Notebook*.

When the battery is running out of power, both the battery indicator light and power indicator light blink.

When the computer is directly connected to AC power and a battery pack is in the battery bay, it uses power from the AC outlet.

Keep the battery pack in the computer while it is directly connected to AC power. The battery pack continues to charge while you are using the computer.

If the battery level falls below 10%, you should either attach the AC adapter to recharge the battery or shut down your computer and insert a fully-charged battery.

You can extend battery life by changing the power management modes in the PowerPanel utility. See "Using Power Saving Modes" on page 52.

The battery pack supplied with your computer is a lithium ion battery and can be recharged at any time. Charging a partially discharged battery does not affect battery life.

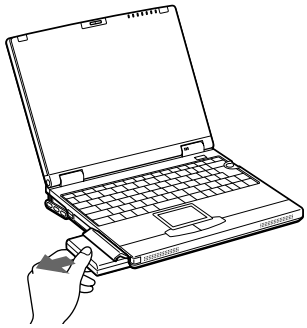
The battery indicator light is on while you use the battery pack as a power source. When battery life is nearly depleted, the battery indicator starts flashing.

For some software applications and some peripheral devices, your computer may not enter System Hibernation mode when the battery life is low. To avoid loss of data when using battery power, you should save your data frequently and manually activate a power management mode, such as System Suspend or System Hibernation.

To remove the battery pack

1 Open the cover of the battery bay.

2 Pull out the battery pack.



3 Close the cover of the battery bay.

! **You will lose data if you remove the battery pack while the computer is on and not connected to the AC adapter or if you remove the battery while the computer is in System Suspend /System Idle mode.**

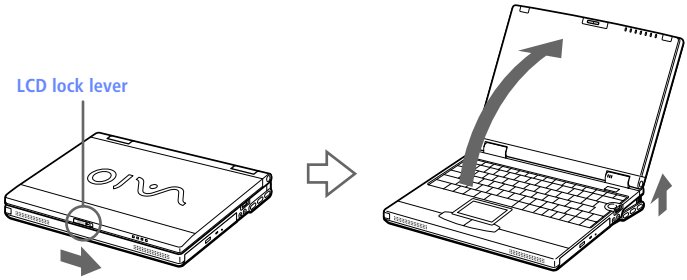
Additional Notes on Batteries

- Never leave the battery pack in temperatures above 140° F (60° C), such as under direct sunlight or in a car parked in the sun.
- Battery life is shorter in a cold environment. This is due to decreased battery efficiency at low temperatures.
- Charge the batteries at temperatures between 50° F and 80° F (10° C to 30° C). Lower temperatures require a longer charging time.
- While the battery is in use or being discharged, the battery pack heats up. This is normal and is not cause for concern.
- Keep the battery pack away from all sources of heat.
- Keep the battery pack dry.
- Do not open or try to disassemble the battery pack.
- Do not expose the battery pack to any mechanical shock.
- If you are not using the computer for an extended period of time, remove the battery pack from the computer to prevent damage to the battery.

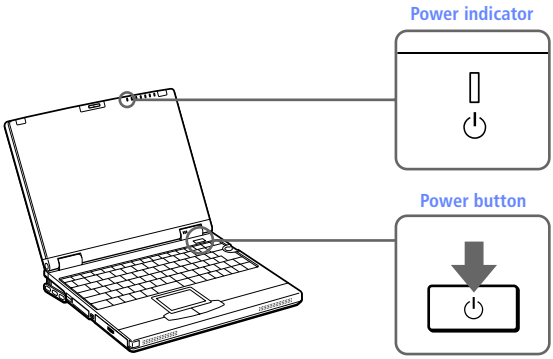
- If, after fully charging the battery pack, the battery power is still low, the battery pack may be reaching the end of its life and should be replaced.
- You do not need to discharge the battery before recharging.
- If you have not used the battery pack for a considerable amount of time, recharge the battery.

Starting Your Computer

1 Slide the LCD lock lever in the direction of the arrow, and lift the cover.



2 Press the power button of the computer until the green power indicator light turns on.



If you press the power button for more than four seconds, the computer turns off.

3 If necessary, adjust the brightness controls for the LCD display. To decrease the brightness, press Fn+F5 and then the down or left arrow key. To increase the brightness, press Fn+F5 and then the up or right arrow key.

Shutting Down Your Computer

! **To avoid potential loss of data, follow these steps to shut down your computer.**

1 Click the Start button on the Windows taskbar.

2 Click Shut Down at the bottom of the Start menu to display the Shut Down Windows dialog box.

3 Select Shut down.

4 Click OK.

Respond to any prompts warning you to save documents.

5 Wait for your computer to turn off automatically. The power indicator (green) turns off.

6 Turn off any peripherals connected to your computer.

If you are unable to shut down your computer using the steps described above,

- close all software in use,
- remove the PC cards if inserted,
- disconnect any USB devices,
- end any Infrared Communication devices,

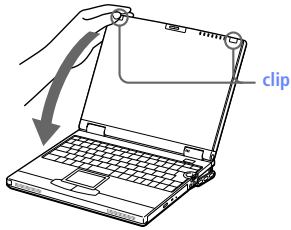
Then, restart the computer.

If the previous steps do not work, see "My computer does not shut down" on page 97.

During a period of inactivity, you can conserve battery life by using System Suspend mode. See "System Suspend Mode" on page 53.

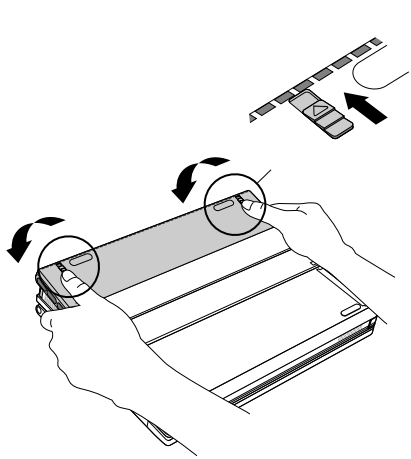
Closing the Front Panel

Close the front panel by holding the clip on the left top of the front panel. If you touch the LCD screen, you will leave fingerprints on the LCD screen. Use the supplied filter cleaner to wipe the LCD screen. See “Notes on Use” for more information.



To close the intercooler flap

The bottom part of the computer does not close automatically. To close the intercooler flap, grasp both sides of the flap while sliding the levers with your thumbs.

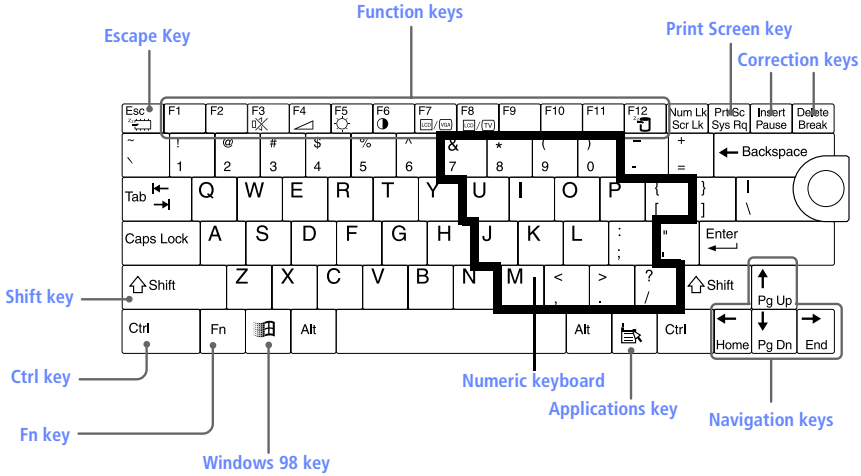


Handling the LCD Screen

- Do not leave the LCD facing the sun as it can damage the LCD. Be careful when using the computer near a window.
- Do not scratch the LCD or exert pressure on it. This could cause malfunction.
- Using the computer in low temperature conditions may produce a residual image on the screen. This is not a malfunction. When the computer returns to normal temperature, the screen returns to normal.
- The screen becomes warm during operation. This is normal and does not indicate a malfunction.
- The LCD is manufactured using high-precision technology. You may, however, see tiny black points and / or bright points (red, blue, or green) that continuously appear on the LCD. This is a normal result of the manufacturing process and does not indicate a malfunction.

Using the Keyboard

Your keyboard is very similar to a typewriter's, but the keyboard has additional keys that perform specific computer-related tasks.



If the keycap comes off, put it back in its place and push down gently until it clicks into place. If the Enter key, Space key or Shift key comes off, see "Replacing a Keycap" on page 102. Do not take off the keycaps intentionally or push excessively when replacing them, as this may cause the unit to malfunction.

Key	Description
Numeric keypad area	Contains the keys found on a typical calculator. Use the numeric keypad area to type numbers or to perform mathematical calculations such as addition and subtraction. Note that you must press the Num Lock key to activate the numeric keypad. (When you do so, the Num Lock light will be on.)
Navigation keys	Several keys are devoted to moving the cursor on the screen.
Correction keys	The Insert, Back Space, and Delete keys enable you to make corrections in your documents.
Function keys	The twelve function keys along the top of the keyboard are used to perform designated tasks. For example, in many applications, F1 is the Help key. The task associated with each function key may vary from one application to the next.
Escape key	The Esc (Escape) key is used to cancel commands.
Print Screen key	The Print Screen key takes an electronic snapshot of the screen and places it in the Windows Clipboard. You can then paste the screen shot into a document and print it.
Operator keys	Several keys are always used with at least one other key: Ctrl, Alt, and Shift. When held down with another key, the Ctrl (Control) and Alt (Alternate) keys offer another way to give commands. For example, in many applications, instead of choosing the Save command from a menu, you can hold down Ctrl and press S (referred to as Ctrl+S). The Shift key operates the same way as on a typewriter; it is used to produce capital letters or special symbols such as @ and $.
Windows key	The key with the Windows logo displays the Windows Start menu; it is the equivalent of clicking the Start button on the taskbar. See “Combinations and Functions with the Windows Key” on page 25.
Fn key	The Fn key is used in combination with other keys to issue commands. See “Combinations and Functions with the Fn Key” on page 27.
Applications key	The Applications key displays a shortcut menu of context-sensitive choices. Pressing this key is the equivalent of clicking the right mouse button.

Combinations and Functions with the Windows Key

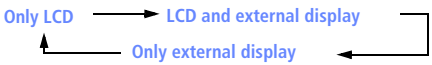
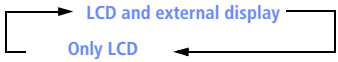
Combination	Function
+ F1	Displays Windows Help.
+ Tab	Switches the selected button on the taskbar.
+ E	Displays Windows Explorer.
+ F	Displays the Windows Find: All Files window to find a file or folder. This is the equivalent of selecting Find and then Files or Folders from the Start menu.
+ Ctrl + F	Displays the Windows Find: Computer window where you can locate other computers. This is the equivalent of selecting Find and then Computer from the Start menu.
+ M	Minimizes all displayed windows.
Shift + + M	Returns all minimized windows to their previous size.
+ R	Displays the Run window. This is the equivalent of selecting Run from the Start menu.
Fn + + Insert	Displays the Properties window. This is the equivalent of double-clicking the System icon in the Control Panel.

Indicators

Indicator	Function
Power	Light is green when the power to the computer is turned on. Light is red in System Idle mode, and flashes red in System Suspend mode. Turns off when the computer is in System Hibernation mode or powered off.
Battery 1 1	Indicates the status of the battery inserted in the battery bay on the left side of the computer.
Battery 2 2	Indicates the status of the battery inserted in the drive bay on the right side of the computer.
Hard disk	Lights when data is being read from or written to the hard drive. Do not enter System Suspend mode or turn off the computer when this indicator light is on.

Light	On	Off
Num Lock	The number keys in the numeric keypad are active.	The alphanumeric character keys in the keypad area are active.
Caps Lock	The letters appear in uppercase as you type. The Shift key lowers the case of typed letters when Caps Lock is on.	Letters appear in lower case as you type (unless you hold down the Shift key).
Scroll Lock	The screen scrolls differently. (Exactly how it scrolls depends on the specific application. It has no effect in many applications.)	Information moves across the display normally.

Combinations and Functions with the Fn Key

Combinations/ Feature	Function
Fn+ (ESC) System Suspend	Puts the system into System Suspend mode, a power management state. To return the system to the active state, press any key or press the power switch on your computer.
Fn+ (F3) Mute On / Off	Toggles the built-in speaker off and on.
Fn+ (F4) Speaker volume	Adjusts the built-in speaker volume. To increase volume, press Fn+F4, then ↑ or →. To decrease volume, press Fn+F4, then ↓ or ←.
Fn+ (F5) Brightness control	Adjusts the brightness of the LCD. To increase light intensity, press Fn+F5 and then ↑ or →. To decrease light intensity, press Fn+F5 and then ↓ or ←.
Fn+ LCD / VGA (F7) Switch to the external display / LCD	Toggles through the LCD, external display (connected to the Monitor connector) and both LCD and external display. 
Fn+ LCD / TV (F8)	Toggles through the external display connected to an optional Mini Docking Station (PCGA-PSX1) and the LCD. 
Fn+ (F12) System Hibernation	Provides for the lowest level of power consumption. When you execute this command, the state of the system and state of the peripheral devices are written to the hard disk and the system power is turned off. To return the system to the originals state, use the power button to turn on power.

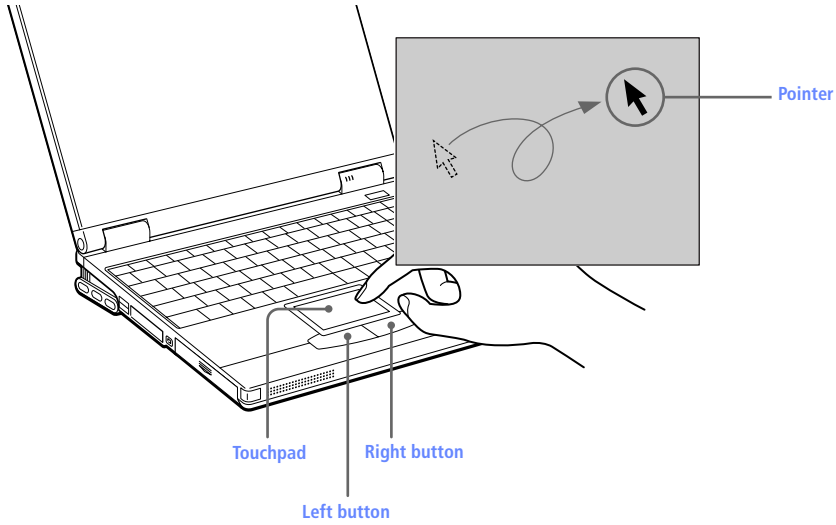
Combinations/ Feature	*Function*
Fn+D Video Standby	Turns off the LCD in order to save power. To turn the LCD back on, press any key (Windows® 98 only.).
Fn+E Eject	Ejects the optical disc.
Fn+S System Idle	Puts the system into System Idle mode, a power management state. To return the system to the active state, press any key.

You can carry out these functions using the Jog Dial control. See "Using the Jog Dial Control" on page 45 for more information.

Some functions are not available until Windows launches.

Using the Touchpad

The keyboard contains a cursor-pointing device called a touchpad. You can point to, select, drag, and scroll objects on the screen using the built-in touchpad.



Action	Description
Point	Slide one finger on the touchpad to place the pointer on an item or object.
Click	Press the left button once.
Double-click	Press the left button twice.
Right-click	Press the right button once. In many applications, this action displays a shortcut menu of context-sensitive choices.
Drag	Slide one finger while pressing the left button.
Scroll	Move your finger along the right edge of the touchpad to scroll vertically. Move your finger along the bottom to scroll horizontally. (The scroll function is available only with applications that support a touchpad scroll feature.)

See Mouse Properties for information on touchpad features, such as clicking both buttons simultaneously, adjusting touchpad speed, and Easy Launcher functions. To access Mouse Properties, press the Start button, select Settings, and then select Control Panel. Double-click the Mouse icon in the Control Panel.

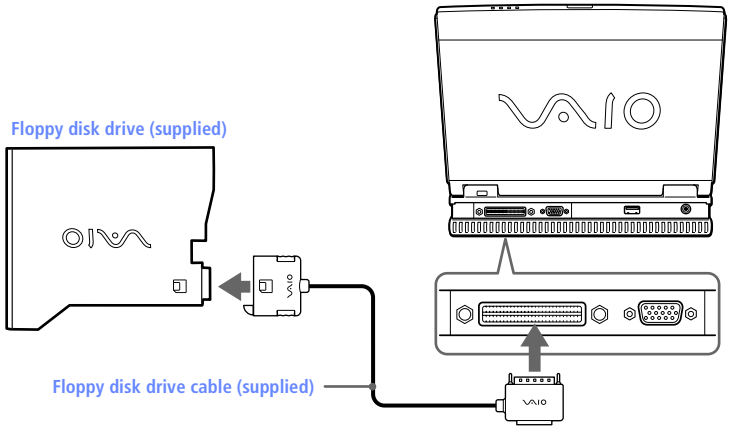
Using the Floppy Disk Drive

You can use the supplied floppy disk drive either as an external drive or as an internal drive in the drive bay.

In Windows 2000 models, you cannot insert / remove the disk drive when the computer is in power saving mode, as a malfunction may result. In Windows 98 models, you can also connect the floppy disk drive while in power saving mode.

To use as an external drive

Connect the floppy disk drive to the computer using the floppy disk drive cable (supplied) with the VAIO logo facing up.

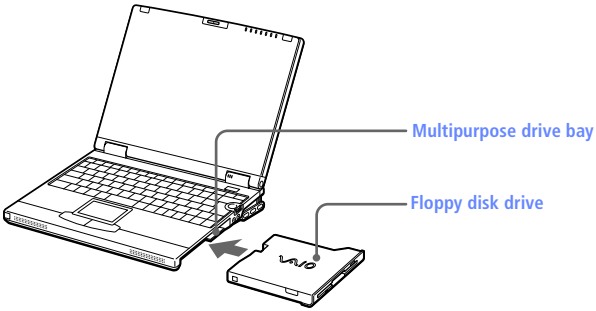


Align the logo on the cable with the slot connection and insert the connector straight into the slot.

To use as an internal drive

1 If another device is in the multipurpose drive bay, remove the device. See “To remove the floppy disk drive (Windows 98 models)” on page 32 or “To remove the second battery pack” on page 55.

2 Insert the floppy disk drive into the multipurpose drive bay with the VAIO logo facing up. Continue pushing the drive into the bay until the RELEASE lever locks into place.

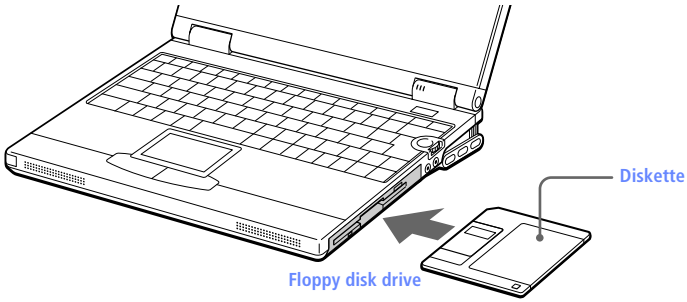


To insert a diskette

(Windows® 2000 models only) You can insert a floppy disk, even if the LED indicator is on.

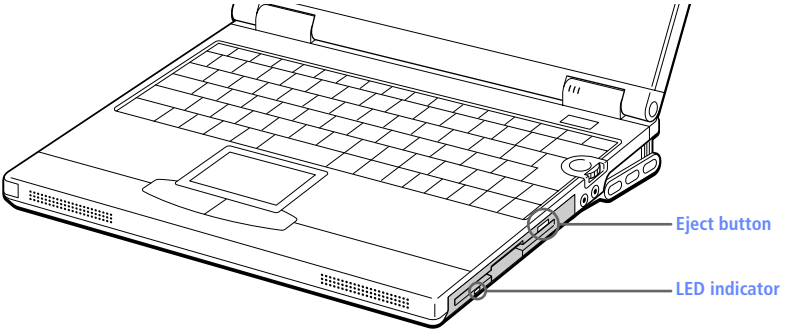
1 Hold the diskette with the label side facing up.

2 Gently push the diskette into the drive until it clicks into place.



To remove a diskette

- When you finish using the diskette, wait until the LED indicator turns off and then press the Eject button to remove the diskette.



Do not press the Eject button when the LED indicator is turned on, as data may be lost.

Handling Diskettes

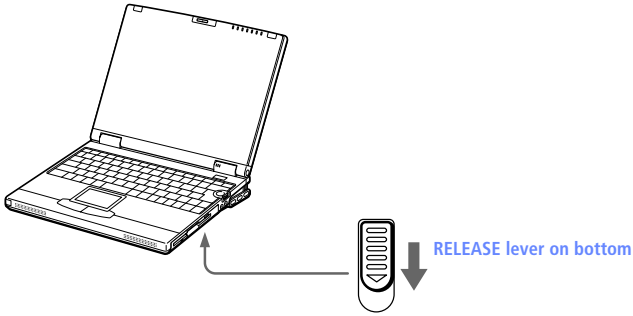
- Do not open the shutter manually and touch the surface of the diskette.
- Keep diskettes away from magnets.
- Keep diskettes away from direct sunlight and other heat sources.

To remove the floppy disk drive (Windows 98 models)

When the computer is off, skip steps 1 and 3.

1. Right-click the PowerPanel icon in the task tray and choose “Remove multi-purpose bay device” [IDE] when using an internal drive. When using an external drive, choose “Remove external FDD” instead.
2. Slide the RELEASE lever on the bottom of the computer in the direction of the arrow and slide the drive out of the multipurpose drive bay.

3 Click OK on the message screen.



When the multipurpose drive bay is empty, attach the weight saver to it. See step 3 of "Using a Second Battery Pack" on page 54 for details on attaching the weight saver.

To remove the floppy disk drive (Windows 2000 models)

If your computer is turned off, you do not have to follow these instructions.

1 Double-click in the system task tray.

2 The "Unplug or Eject" dialog box appears.

3 In the Unplug or Eject Hardware dialog box, select the appropriate option, and then click Stop.

4 Confirm the device and click OK.

5 A message appears informing you that the device can now be safely removed from the system.

6 Slide the RELEASE lever on the bottom of the computer in the direction of the arrow, and then unplug the floppy disk drive from the computer.

Removing the floppy disk drive using the Jog Dial™ control (Note: This option is available only with Windows 98)

To remove the floppy disk drive from the multipurpose drive bay using the Jog Dial control

1. Rotate the Jog Dial control to PowerPanel, and then press the Jog Dial control. The PowerPanel window appears.
2. Rotate the Jog Dial control to Multipurpose drive bay, and then press the Jog Dial control.

To remove an external floppy disk drive, select External floppy disk drive, and then press the Jog Dial control.

The Device Swapping window appears. Remove the drive, and click OK.

Note: If your computer is turned off, you do not have to follow these instructions.

Using the DVD-ROM Drive

Your computer comes with a DVD-ROM drive.* You can play both DVDs and CDs.

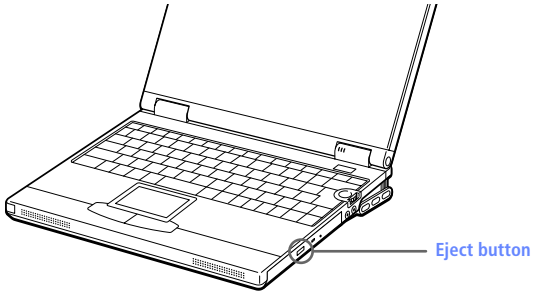
To insert a disc

1 Turn on the computer.

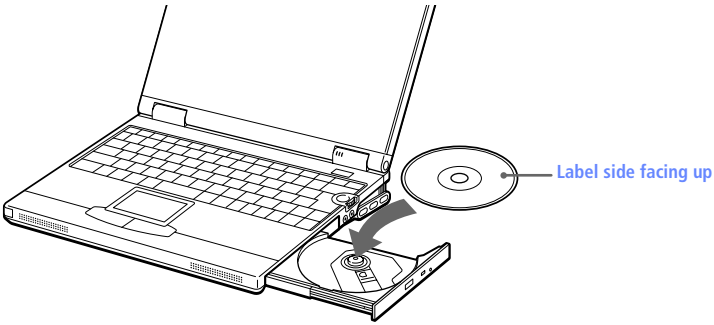
When the computer is in System Suspend or System Hibernation mode, you cannot insert a disc. See "Controlling Power Management" in the online manual *Customizing Your VAIO® Notebook* for more information on System Suspend and System Hibernation modes.

2 Press the Eject button to open the DVD-ROM drive.

The tray slides out.



3 Place a DVD or CD in the tray with the label side facing up. For DVDs, which can be played on both sides, the side of the disc facing up is the side that plays. Push the disc onto the hub until the disc clicks into place.



* Some specifically-configured models come with a CD-RW drive instead of a DVD-ROM drive.

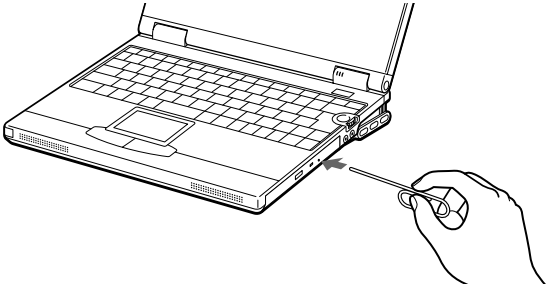
4 Close the tray by pushing it gently.

Be sure to seat the disc firmly over the DVD-ROM drive hub fingers. If you do not seat the disc firmly, you could damage your DVD-ROM drive and you may not be able to open the tray.

When you finish using a disc, wait until the LED indicator light turns off, then press the Eject button to remove the disc.

When the computer is in System Suspend or System Hibernation mode, you cannot remove a disc. See "Controlling Power Management" in the online manual *Customizing Your VAIO® Notebook* for more information about System Suspend and System Hibernation modes.

If the disc does not come out when you press the Eject button, turn off the computer and insert a thin, pointed object into the manual eject hole.



To play DVDs

When you play DVDs on a television connected to the optional mini docking station (PCGA-PSX1), a part of the video screen will not appear with the factory setting. Adjust the display resolution to 640 x 480 as described in "Selecting the Display Mode" in the online manual *Customizing Your VAIO® Notebook*.

When playing DVD movies on battery power, set the power management profile to DVD profile. With other profiles, the movies are choppy. As an alternative, you can set the power management profile to Automatic Profile Selection, which will cause the DVD profile to be selected automatically whenever you insert a DVD. See "Controlling Power Management" in the online manual *Customizing Your VAIO® Notebook* for information on how to set the power management profile.

In Windows 2000 models, you cannot insert / remove the DVD-ROM drive when the computer is in power saving mode, as a malfunction may result. In Windows 98 models, you can also connect the DVD-ROM drive while in power saving mode.

On Handling CD and DVD media

- Do not touch the surface of the disc.
- Do not drop or bend the disc.

On Cleaning CD and DVD media

- Fingerprints and dust on the surface of a disc may cause read errors. Proper care of the disc is essential to maintain its reliability. Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray, as they may cause damage to the disc.
- For normal cleaning, hold the disc by its edge and use a soft cloth to wipe the surface from the center out.
- If the disc is badly soiled, moisten a soft cloth with water, wring it out well, and use it to wipe the surface of the disc from the center out. Wipe off any remaining moisture with a dry soft cloth.

To remove the DVD-ROM drive (Windows 98® models)

When the computer is off, skip steps 1 and 3.

1. Right-click the AC Power icon in the task tray and choose "Remove multipurpose drive bay device [IDE]." The message screen appears.
2. Slide the RELEASE lever on the bottom of the computer in the direction of the arrow and slide the DVD-ROM drive out of the multipurpose drive bay.
3. Click OK on the message screen.

Be sure to insert the weight saver into the multipurpose drive bay when the bay is empty. See "To insert a second battery pack" on page 54 for details on inserting the weight saver.

To remove the DVD-ROM drive (Windows 2000 models)

If your computer is turned off, you do not have to follow these instructions.

1. Double-click in the system task tray.
2. The “Unplug or Eject” dialog box appears.
3. In the Unplug or Eject Hardware dialog box, select the appropriate option, and then click Stop.
4. Confirm the device and click OK.
5. A message appears informing you that the device can now be safely removed from the system.
6. Slide the RELEASE lever on the bottom of the computer in the direction of the arrow, and then unplug the DVD-ROM drive from the computer.

Removing the DVD-ROM drive using the Jog Dial™ control (Windows 98 models)

To remove the DVD-ROM drive from the multipurpose drive bay using the Jog Dial control

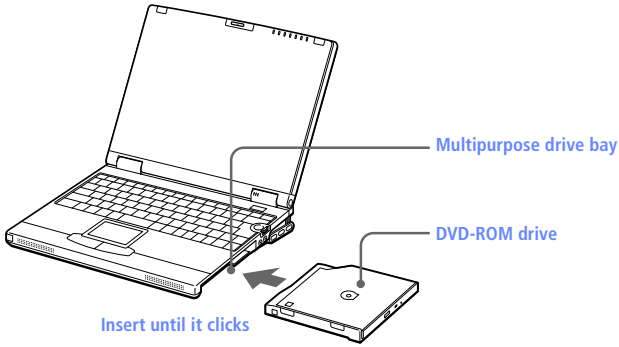
1 Rotate the Jog Dial control to PowerPanel, and then press the Jog Dial control. The PowerPanel window appears.

2 Rotate the Jog Dial control to Multipurpose drive bay, and then press the Jog Dial control.

Note: If your computer is turned off, you do not have to follow these instructions.

To insert the DVD drive

You do not need to shut down the computer to insert the DVD-ROM drive into the multipurpose drive bay. You can also insert the DVD-ROM drive while the computer is in power saving mode.



Using PC Cards

Your computer includes two PC card slots. PC cards allow you to connect portable external devices, such as another hard disk drive, or to connect a network.

The PC card slots can accommodate (at the same time) two Type I, two Type II, or one Type III PC card. These slots are compatible with Card Bus.

Some PC cards may require that you disable idle devices when using the PC card. You can use Sony Notebook Setup to disable devices. See "Displaying the Sony Notebook Setup Screen" in the online manual *Customizing Your VAIO® Notebook* manual for details.

Be sure to use the most recent software driver provided by the PC card manufacturer.

If an "!" mark appears on the Device Manager tab in the System Properties dialog box, remove the software driver and then reinstall it.

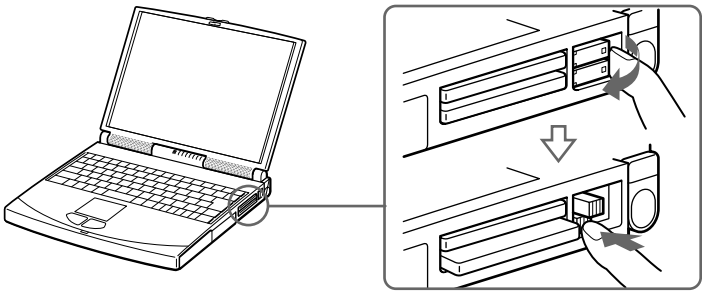
You may not be able to use some PC cards or some functions of the PC card with this computer.

To insert a PC card

Use the lower slot for Type III PC cards.

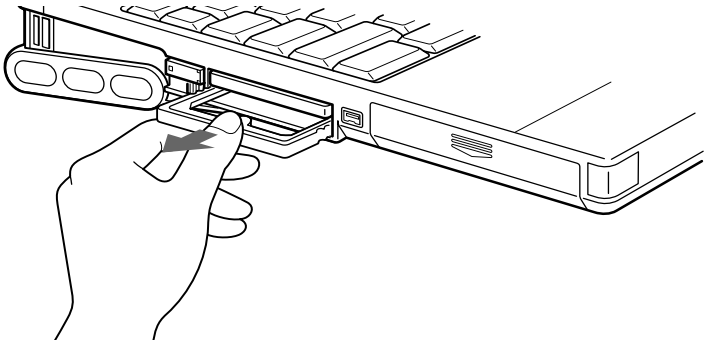
You do not need to shut down the computer before inserting or removing a PC card.

1 Pull the PC card RELEASE button away from the computer, and then push it in toward the computer.

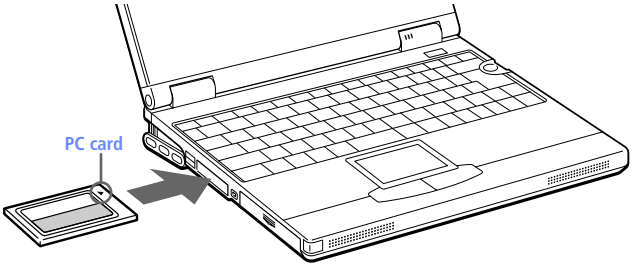


2 Remove the PC card slot protector.

When you use a Type III PC card, you need to remove both the top and bottom PC card slot protectors.



3 Insert the PC card into the PC card slot with the front label facing up. Gently push the card into the slot until the card is fixed into the connector. The RELEASE button comes out. Push down the RELEASE button toward the display panel.



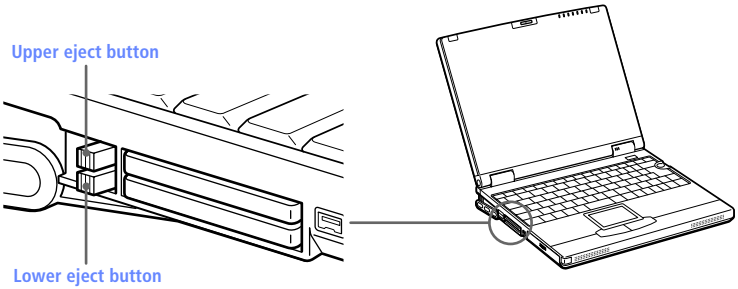
To remove a PC card (Windows 98 models)

Do not force a card into the slot, as this may damage the connector pins. If you have difficulty inserting a card, check that you are inserting the card with the correct orientation. See the manual that came with your PC card for more information on use.

For some PC cards, if you alternate between normal power operation and the System Suspend or System Hibernation power management modes while the card is inserted, you may find that a device connected to your system is not recognized. Restart your system to correct the problem.

When the computer is on, be sure to follow the steps below, otherwise the system may not activate properly. When the computer is off, skip steps 1 to 4.

1. Click the Start button, point to Setup, and then click Control Panel.
2. Double-click the PC card icon.
3. Click the name of the PC card you want to remove from the list that displays, then click Stop.
4. When the message "You can remove the PC card" appears in the display, click OK.
5. Press the RELEASE button to remove the PC card.



Insert the PC card slot protector back into the empty slot.

To remove a PC card (Windows 2000 models)

If your computer is turned off, you do not have to follow these instructions.

1. Double-click in the system task tray.
2. The “Unplug or Eject hardware” dialog box appears.
3. In the Unplug or Eject Hardware dialog box, select the appropriate option, and then click Stop.
4. Confirm the device and click OK.
5. A message appears informing you that the device can now be safely removed from the system.
6. Press the PC card RELEASE button to remove the PC card.

Removing the optional hard drive PCGA-HDX10

Windows 98 models

1. Click the Remove multipurpose drive bay device icon on the PowerPanel. The Device Swapping message appears.
2. Slide the Release lever on the bottom of the unit in the direction of the arrow and hold while sliding the device out of the multipurpose drive bay.
3. Click OK.

Windows 2000 models

1. Double-click in the system task tray.
2. The “Unplug or Eject” dialog box appears.
3. In the Unplug or Eject Hardware dialog box, select the appropriate device, and then click Stop.
4. Confirm the device and click OK.
5. A message appears informing you that the device can now be safely removed from the system.
6. Slide the RELEASE lever on the bottom of the computer in the direction of the arrow and then unplug the drive from the computer.

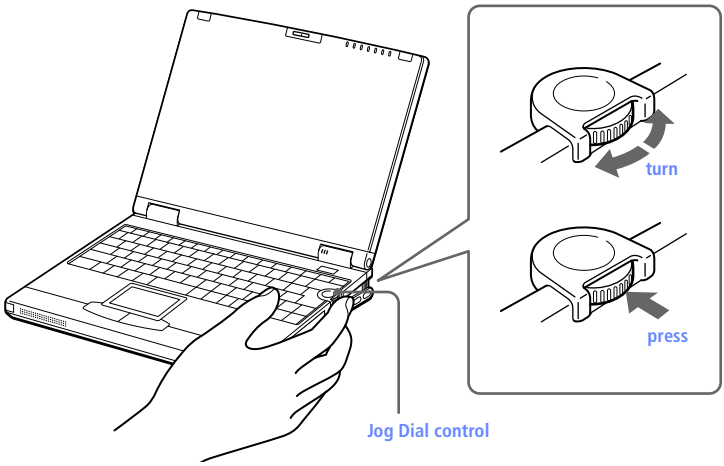
When the computer is in System Suspend or System Hibernation mode, you cannot remove the hardware device.

VAIO Action Setup

VAIO Action Setup manages the settings for your computer's Jog Dial control, internal timer, and i.LINK interface. An overview of each of these functions is provided in the next few pages. For more information on changing the settings using VAIO Action Setup, right-click the Jog Dial control icon or , in the task tray and click Help Topics.

Jog Dial™ Control

Your computer is equipped with a Jog Dial control on the right side of the unit. The Jog Dial control enables you to open an application, folder, or document from a predefined list by rotating and pressing the Jog Dial control. In addition, when you press the Jog Dial control, you can turn on your computer automatically and start the selected application or document, and if the document you select is a script file, you can execute a complex task, such as connecting to the Internet and downloading your e-mail to your computer by simply pressing the Jog Dial control.



Using the Jog Dial Control

This section explains how to use the Jog Dial control. For information on how to change the Jog Dial control's settings, right-click the Jog Dial control icon in the task tray and click Help Topics.

Launcher mode

The Jog Dial control window is in launcher mode until a software application is launched or the Jog Dial control window becomes active. When an arrow is displayed next to an item in the Jog Dial control window, you can display a submenu of that item by selecting it and pressing the Jog Dial control button.

Using Launcher mode

To use the Jog Dial control, click the Jog Dial control window or the Jog Dial control icon in the task tray. Alternatively, you can press the Jog Dial control while pressing the Ctrl key on the keyboard to switch to the launcher mode.

1 Turn the Jog Dial control to select the item you want, then press the Jog Dial control. The window switches to the guide mode, and shows the Jog Dial's function.

2 Turn or press the Jog Dial control to use the desired function.

3 To select another item, switch to the launcher mode and repeat from step 1.

Guide mode

The Jog Dial control window is in the guide mode when software is in use and the software window is active. Depending on the software you are using, you can select items from the displayed list using the Jog Dial control. Some Sony software applications have two modes in List View, Simple Menu and Full Menu. You can switch the mode by pressing the shift key while turning the Jog Dial control.

Guide mode

The Jog Dial control window displays the Jog Dial's function.

Software that supports the Jog Dial Control

If Sony software that supports the Jog Dial control is active, you can use the Jog Dial's functions that are allocated to that software. For more information on functions allocated to software, see the software applications online Help.

Software that does not support the Jog Dial Control

If the software you are using does not support the Jog Dial control, you can scroll the window or adjust the window size as described below:

Action	Description
Maximize Window*	Press the Jog Dial control button to maximize the size of the active window. Press again to return to normal window size.
Minimize Window*	Press the Jog Dial control button to minimize the size of the active window. Press again to return to normal window size.
Finish Window*	Press the Jog Dial control button to close the active application.
Scroll*	Press the Jog Dial control button to begin scrolling within the active window.
Jog Dial Launcher	Press the Jog Dial control button to return the Jog Dial control to Jog Launcher mode.
Menu Bar	Press the Jog Dial control button, then use the Jog Dial control to scroll through the active window's toolbar.

* Some software does not support these functions.

Dialog box

When a window such as Screen properties is active, Dialog is displayed in the Jog Dial control window. You can select an item in the window by rotating the Jog Dial control. Pressing the Jog Dial control is equivalent to pressing Enter.

Internal Timer

You can use the internal timer to start an application at a specific time. The timer can start applications even when the computer is in System Hibernation mode.

i.LINK® Interface

Your computer comes equipped with an i.LINK port. The port is a digital interface (IEEE1394) for high-speed communication. By using your computer, a Sony Digital Handycam® Camcorder or other compatible camera that supports the i.LINK interface, you can easily create and edit your own home videos. For more information on connecting an i.LINK device, see “Connecting an i.LINK®-compatible Device” on page 80 of this manual.

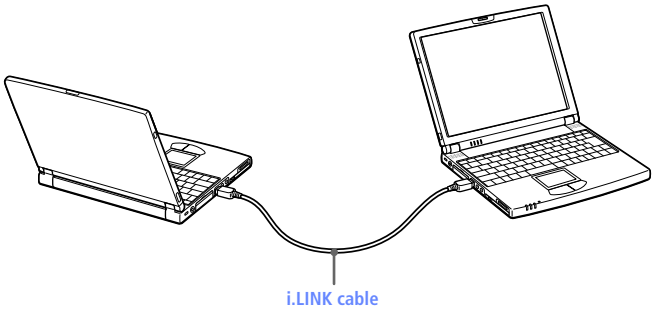
Using Smart Connect

The preinstalled Smart Connect software allows you to use an i.LINK cable (optional) to connect your VAIO notebook to another VAIO computer that also has Smart Connect. You can then use one computer to copy, and edit files on the other computer. You can also print from a printer attached to either computer.

When you use Smart Connect to connect two VAIO computers, you must assign each computer a unique name by which it can be identified when the two computers are networked.

Do not connect/remove the Mini Docking Station while using Smart Connect as Smart Connect may become unavailable.

See the Smart Connect online help for more information.



i.LINK cables

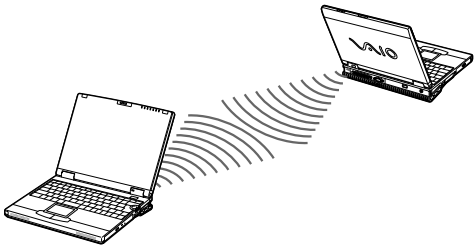
i.LINK cables compatible with your VAIO notebook include cables with the following part numbers: VMC-IL4415 (a 1.5 meter cable with a 4-pin connector at each end), VMC-IL4615 (a 1.5 meter cable with a 4-pin connector at one end and a 6-pin connector at the other end), and VMC-IL4408A (a 0.8 meter cable with a 4-pin connector at each end). You can purchase these cables from your local retailer, through the Sony VAIO® Direct Web site (http://www.sonydirect.com/notebookaccessories), or by calling 1-877-244-9995 (toll free).

Using Infrared Communication Devices

Your computer includes an infrared port, located on the left side. You can use this port to communicate with other infrared-equipped devices with compatible protocols, such as a digital still camera or other computers.

To use infrared communication with another computer

Align the infrared ports on the two computers so that they are in a direct line.



Infrared communication capability can be turned on and off. By default, it is disabled when your system is shipped. To enable infrared use, click the infrared icon in the Windows Control Panel and select the Enable infrared communication checkbox on the Options tab.

You can disable infrared communication when you are not using it to conserve battery life.

Use the infrared icon in the Windows Control Panel to enable and disable infrared communication. Do not use the icon in the taskbar.

Check the Status tag of the Infrared Monitor in the Windows Control Panel to determine if the infrared device is detected.

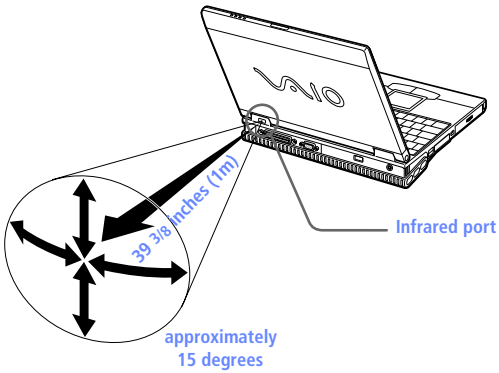
If the two devices are too far apart or too close together, data transfer may be interrupted or there may be noise in the transmission.

Do not cover the infrared ports with your hand or any other object.

Avoid direct sunlight, fluorescent light, or flashing incandescent light near the infrared ports.

See the manual that came with your digital still camera or other infrared communication device for more information on installation and use.

The active area of infrared transmission extends about 39 $^{3}/_{8}$ inches (1 meter) with an approximate radius of 15 degrees.



Using Power Saving Modes

When you use a battery as the source of power for your computer, you can take advantage of power management settings to conserve battery life. In addition to the normal operating mode, which allows you to turn off specific devices, your computer has three distinct power saving modes: System Idle, System Suspend, and System Hibernation. When using battery power, you should be aware that the computer automatically enters System Hibernation mode when the remaining battery charge drops below 5%, regardless of the power management setting you select.

If the battery level falls below 10%, you should either attach the AC adapter to recharge the battery or shut down your computer and insert a fully charged battery.

Normal Mode

This is the normal state of your computer when it is in use. The green power indicator light is on in this mode. To save power, you can turn off a specific device such as the LCD.

System Idle Mode

This mode is convenient if you do not need to use your computer for a brief period. The hard disk and video display enter a low power state, and the CPU clock and processor stop. The power indicator light is red in this mode.

To activate System Idle mode

Press Fn+S, the PowerPanel utility, or the Jog Dial™ control.

To return to normal mode

Press any key or touch the touchpad.

System Suspend Mode

The computer saves the current state of the system in RAM and switches off power to the CPU. The red power indicator light flashes in this mode.

To activate System Suspend mode

Press Fn+Esc, or press the power button and release it immediately. You can also use the PowerPanel utility or the Jog Dial control to enter System Suspend mode.

To return to normal mode

Press any key or the Power button for less than 4 seconds.

System Hibernation Mode

The state of the system is saved on the hard drive and power is turned off. The power indicator light is off in this mode.

To activate System Hibernation mode

Press Fn+F12. The “Computer Standby message” screen appears, and then the computer enters System Hibernation mode. You can also use the PowerPanel utility or the Jog Dial control to enter System Hibernation mode.

To return to normal mode

Turn on the computer by pressing the power button. The computer returns to its previous state.

When returning from System Hibernation mode, the system status stored on the hard disk is erased and the computer starts normally if you press the power button and hold for more than four seconds.

- Time to return to normal mode

  System Idle requires less time than System Suspend, and System Suspend requires less time than System Hibernation.

- Power consumption

  System Idle uses more power than System Suspend, and System Suspend uses more power than System Hibernation.

Using a Second Battery Pack

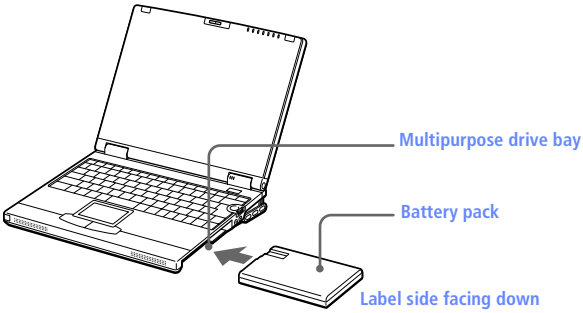
You can purchase a second rechargeable battery pack. With two battery packs, you can extend the time that you use your computer with battery power. When using two battery packs, the battery pack you insert first charges first. The battery pack you insert second charges when the first battery pack is 85% full. You can monitor which battery pack is charging by observing the battery indicator lights.

To insert a second battery pack

1 If another device is in the multipurpose drive bay, remove the device. See “To remove the DVD-ROM drive (Windows 98® models)” on page 37.

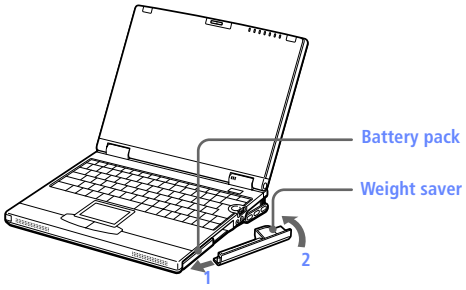
2 Insert the battery pack into the multipurpose drive bay.

If the battery is being used, the battery 2 indicator light turns on.



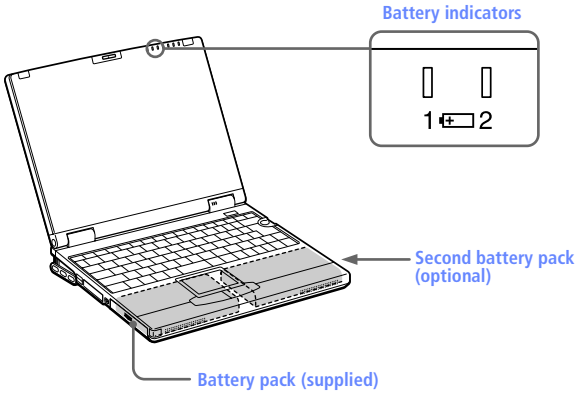
3 Attach the weight saver to the computer to stabilize the battery pack.

Insert the tab of the weight saver into the hollow of the multipurpose drive bay slot, and then push the weight saver into the multipurpose drive bay until it clicks.



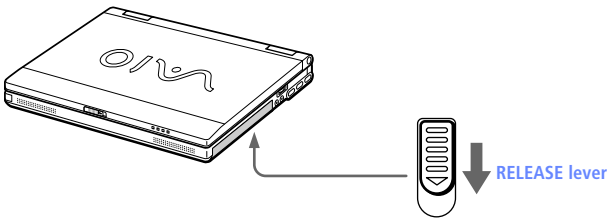
To charge the second battery pack

Keep the battery pack in the computer while it is connected to AC power. The battery indicator flashes while the battery is charging. See "To charge the battery pack" on page 15 for more information.



To remove the second battery pack

1 There is a RELEASE lever on the bottom of the weight saver. To remove the battery pack, slide the RELEASE lever on the bottom of the computer in the direction of the arrow. See also "To remove the floppy disk drive (Windows 98 models)" on page 32.



2 Remove the weight saver, and then pull out the battery pack.

3 Reinsert the weight saver.

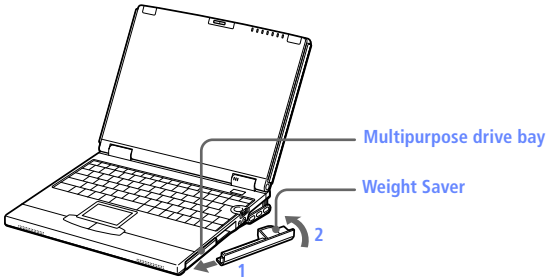
If you attach two battery packs, you can remove either of them without shutting down the computer. When removing one battery pack, make sure that the other battery pack's indicator is on. If the indicator of the battery pack you are going to remove is on, right-click in the task tray and switch it in the "Select the battery pack in use" window.

Using the Weight Saver

The weight saver protects the multipurpose drive bay when it is empty.

To attach the Weight Saver

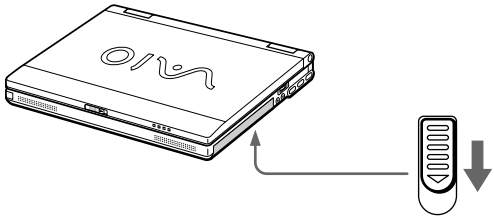
1 If another device is in the multipurpose drive bay, remove the device.



2 Slide the weight saver in the direction of the arrow until it clicks.

To remove the Weight Saver

To remove the weight saver, slide the RELEASE lever on the bottom of the computer in the direction of the arrow.



Connecting Peripheral Devices

You can add functionality to your computer by connecting any of these peripherals:

- Phone line (page 60)
- Mini Docking Station (page 61)
  - Printer (page 66)
  - External mouse or keyboard (page 67)
  - Floppy disk drive (page 69)
  - AV devices (page 70)
- Printer (page 74)
- External display (page 76)
- External speakers (page 78)
- External microphone (page 79)
- i.LINK-compatible device (page 80)
- Universal Serial Bus (USB) device (page 81)

Connect the power cord only after connecting all cables.

Turn on the computer only after turning on all peripherals.

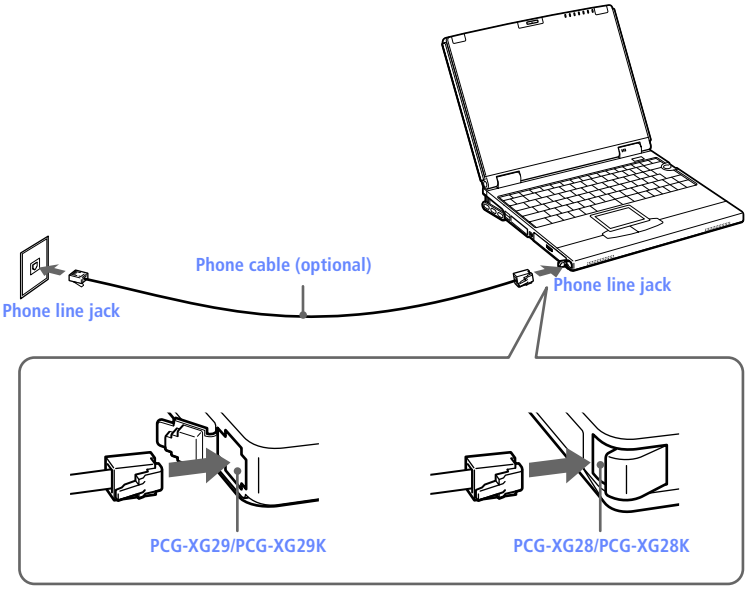
You can select a country mode from the modem property window, but you should only use US mode. Using other country modes is an infringement of the Telecommunications Business Laws.

Connecting a Phone Line

You need to connect a phone line to take advantage of online services and the Internet.

In order to register your Sony VAIO notebook, register your software online, and use Sony Customer Support, you must connect to a phone line.

1 Plug one end of the phone cable into the phone line jack on the computer.



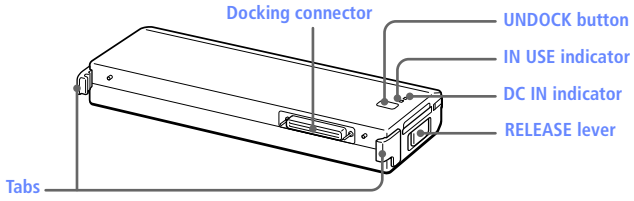
2 Plug the other end into the wall jack.

Your computer does not work with party lines, cannot be connected to a coin-operated telephone, and may not work with multiple phone lines or a private branch exchange (PBX). Some of these connections might result in excess electrical current and could cause a malfunction in the internal modem.

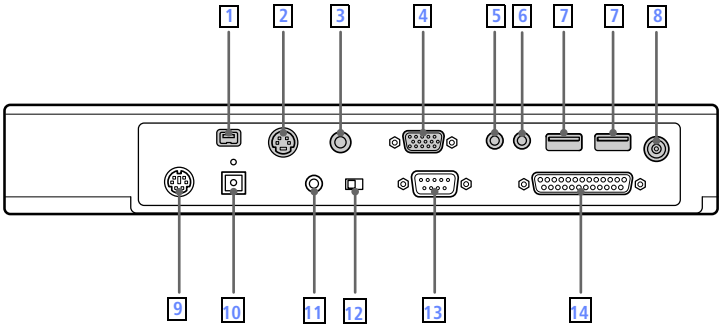
Connecting the Mini Docking Station

You can use the PCGA-PSX1 Mini Docking Station (optional) to connect peripheral devices such as a printer or external display.

In Windows 2000 models, you must wait for the IN USE indicator to light before using a connected peripheral device.

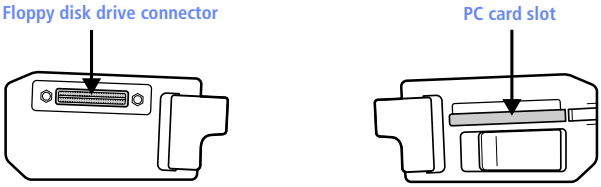


Back



1	S400	8	DC IN
2	S VIDEO	9	Mouse/Keyboard
3	VIDEO	10	OPTICAL OUT
4	Monitor	11	CONTROL A1
5	LINE OUT	12	SERIAL/CONTROL A1 switch
6	LINE IN	13	Serial
7	USB	14	Parallel (printer)

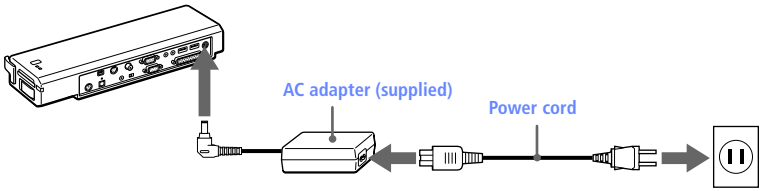
Left *Right*



Before connecting the Mini Docking Station

You need to plug the cable attached to the AC adapter into the DC IN connector on the Mini Docking Station. Plug the power cord into the AC adapter and an electrical outlet.

The DC IN indicator lights on.



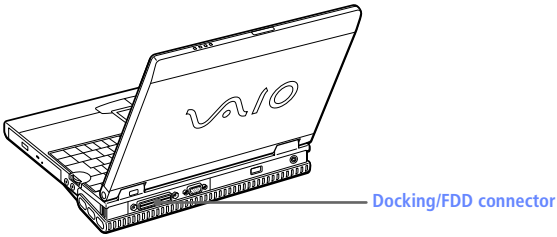
Use the specified AC adapter for the power rating of the Mini Docking Station.

To connect the Mini Docking Station to your computer

Connect the Mini Docking Station to the docking / floppy disk drive connector on the back of your computer.

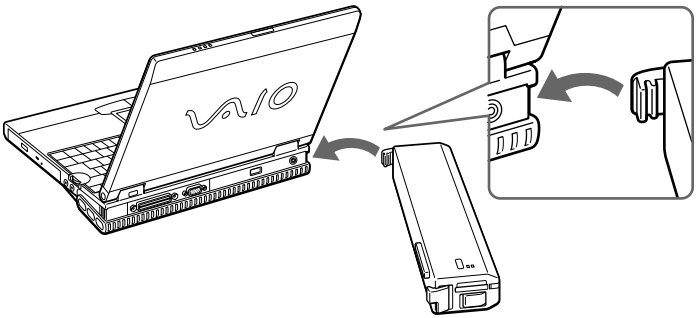
When a charged battery is inserted in your computer, you can attach and detach the Mini Docking Station without turning off the computer.

1 Open the cover of your computer.



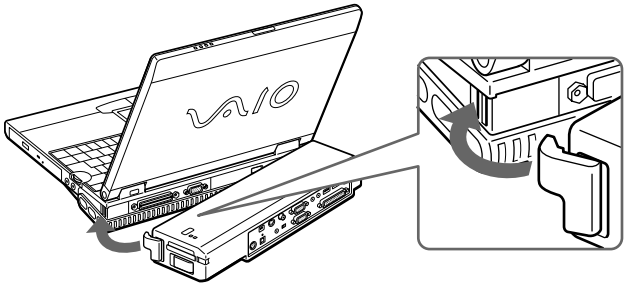
2 Attach the left side tab of the Mini Docking Station to the left side hollow of your computer.

Push the tab into the hollow firmly until it clicks.



3 Attach the right side tab of the Mini Docking Station to the right side hollow of your computer.

Push the tab into the hollow firmly until it clicks.

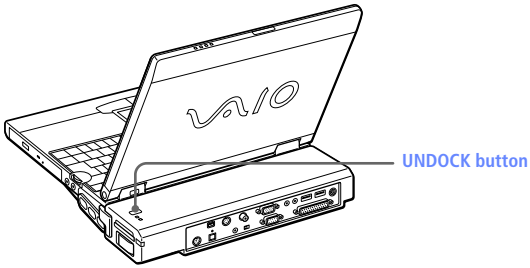


Do not lift or move the computer by holding only the Mini Docking Station as the Mini Docking Station may be removed from the computer.

To remove the Mini Docking Station from your computer

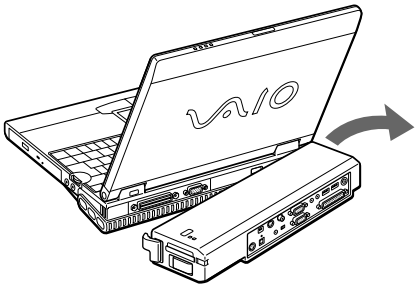
When the computer is in System Hibernation mode, System Suspend mode, or off, skip step 1. If the computer is in System Idle mode, switch to Normal mode, and then follow the steps below.

1 Press the UNDOCK button on the Mini Docking Station or click REMOVE on the Start menu.



2 After the IN USE indicator has turned off, pull the RELEASE lever on the right side of your computer and release the right tab.

3 Release the left tab.



When the Mini Docking Station is attached to your computer, do not insert or remove the battery. The Mini Docking Station may be removed from the computer.

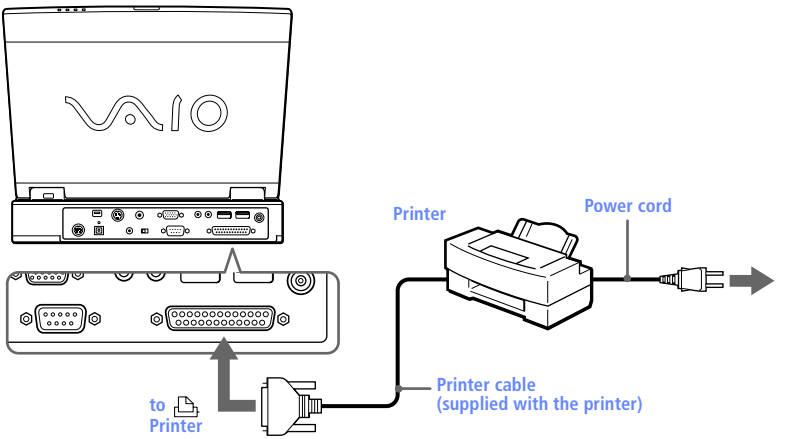
Do not remove the Mini Docking Station when the IN USE indicator is lit.

Connecting a Printer to the Mini Docking Station

You can connect the printer to the Mini Docking Station attached to your computer to print documents.

To connect a printer

Use the symbol to locate the Printer connector. Plug the printer cable (supplied with the printer) into this port on the computer.



Before you connect the printer, turn off your computer and disconnect the AC adapter and power cord from the electrical outlet.

Plug the power cord after finishing all the connections.

Turn on the peripheral devices before turning on your computer.

If you are using a printer that does not support Windows 98, it may not function properly.

You can connect a printer while the floppy disk drive is in use.

When using a USB printer, connect it to the USB connector of your computer or of the Mini Docking Station.

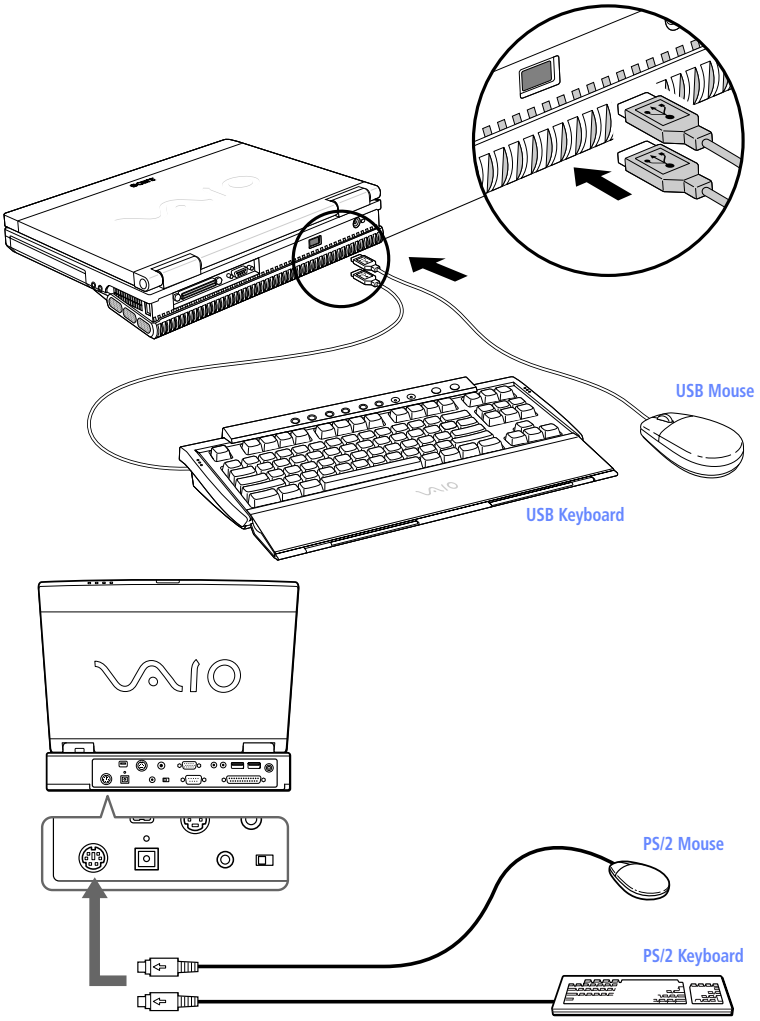
See the manual that came with your printer for more information on installation and use.

Before using the printer, you may need to change the Printer setting in the Sony Notebook Setup software. See "Displaying the Sony Notebook Setup Screen" in the online manual *Customizing Your VAIO® Notebook*.

Connecting an External Mouse or Keyboard

You can connect a USB or PS/2® style mouse or keyboard.

Plug the keyboard cable or mouse cable into this connector with the ⇑ facing up.



USB devices can be connected and disconnected while the computer is on.

To connect both a mouse and keyboard at the same time, use the optional PS/2 division connector. If the wheel function of the PS/2 mouse does not operate, connect the mouse to the serial port using the PS/2 serial adapter that is supplied with your mouse. You can also use one of both of the USB ports to connect a mouse and keyboard at the same time.

See "Using the Keyboard" on page 23 for more information on using the keyboard.

See the manual that came with your mouse or keyboard for more information on installation and use.

Before you connect or disconnect the PS/2 mouse or keyboard, turn off the computer.

Do not connect or disconnect the PS/2 device (keyboard or mouse) when the computer is on as this may cause malfunction.

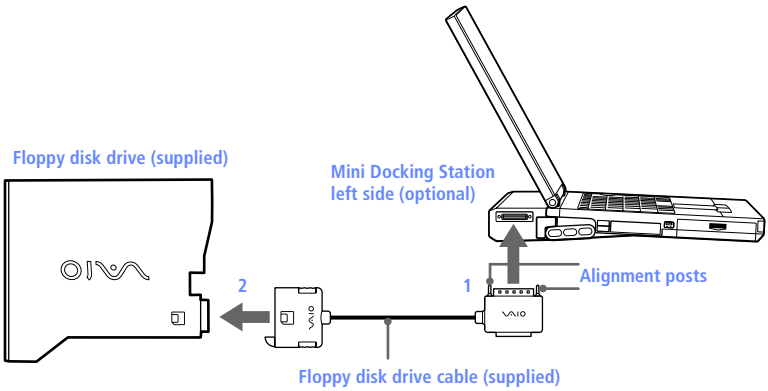
A Sony USB mouse PCGA-UMS1 (optional) is a USB device. You must connect it to the USB connector.

Connecting a Floppy Disk Drive to the Mini Docking Station

You can use the floppy disk drive as an external drive by connecting it to the floppy disk drive connector on the left side of the optional Mini Docking Station. You can connect it without turning off your computer.

To connect a floppy disk drive

Plug the cable firmly into the connector with the VAIO logo facing up and both of the alignment posts in the guide holes.



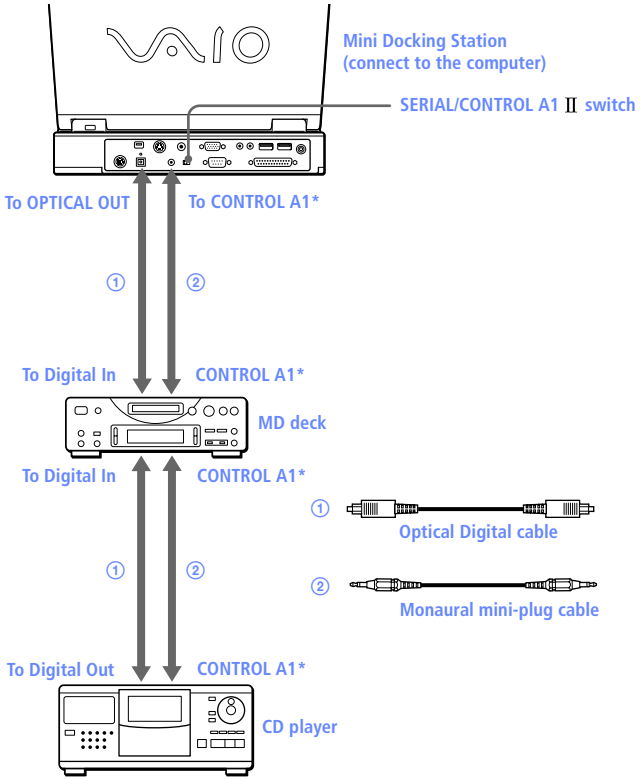
When you connect the floppy disk drive to the floppy disk drive connector of the Mini Docking Station, you cannot use the PRINTER connector of the floppy disk drive cable.

Connecting AV Devices

You can use audio/video devices by connecting the AV devices to the Mini Docking Station. See also the manuals and online help that came with your AV devices.

To connect an MD deck or a CD player

If you connect the Mini Docking Station and an MD deck or a CD player which has a CONTROL A1 or CONTROL A1 II connector, you can play a CD disc, create your own CD database, or edit an MD disc.



To use the CONTROL A1 II connector on the Mini Docking Station, switch the SERIAL/CONTROL A1 II switch to CONTROL A1 II.

Use monaural mini-plug cables shorter than 2 meters with no resistance.

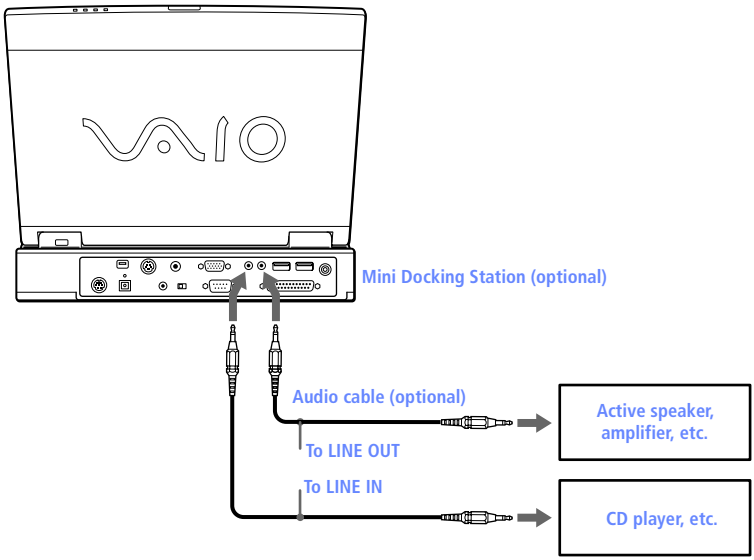
*CONTROL A1 or CONTROL A1 II

To record music to a mini disc from a CD playing on the computer via the OPTICAL OUT, (available by connecting to the Mini Docking Station) follow these steps:

1. Click the Start button, point to Settings, and then click Control Panel.
2. Double-click YAMAHA DS-XG Audio Config.
3. Select Digital Output and click "ON [All Sources] / Analog out is muted."
4. Click OK.

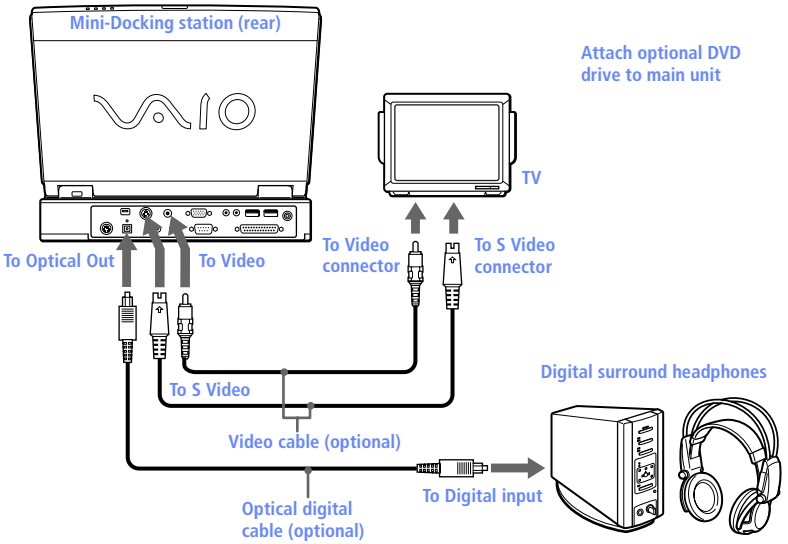
To connect a CD player, an active speaker, or an amplifier

Connect a CD player, an active speaker, or an amplifier to the LINE IN or LINE OUT connector of the Mini Docking Station to play a CD disc and experience higher-quality audio.



To connect a Dolby Digital™ Decoder integrated device (Windows 98 only)

Insert the DVD-ROM drive into the multipurpose bay and connect the OPTICAL OUT connector to a Dolby Digital Decoder integrated device to experience Dolby Digital recorded videos and dynamic sound.



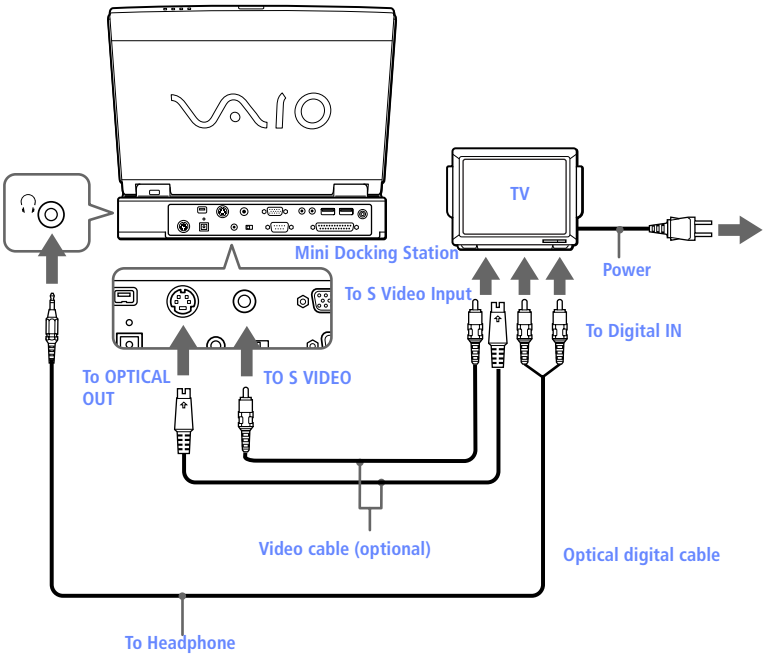
You can experience Dolby Digital or PCM sound from the OPTICAL OUT connector.

Switch the Digital output to PCM when you connect a device that does not support Dolby Digital, otherwise, the speakers or your hearing may be damaged by the increased volume. Switch the Digital output to PCM when you play DVDs that support linear PCM recording on the Mini Docking Station.

To connect a TV or a video deck

Connect the computer to a TV or a video deck using audio/video cables. Switch the input channel of the TV to external input. You also need to set up the TV configuration system. See “To select the display” in the *Customizing Your VAIO® Notebook* manual for more information.

Unplug the connecting cable from the MONITOR connector.



Connecting a Printer to Your Computer

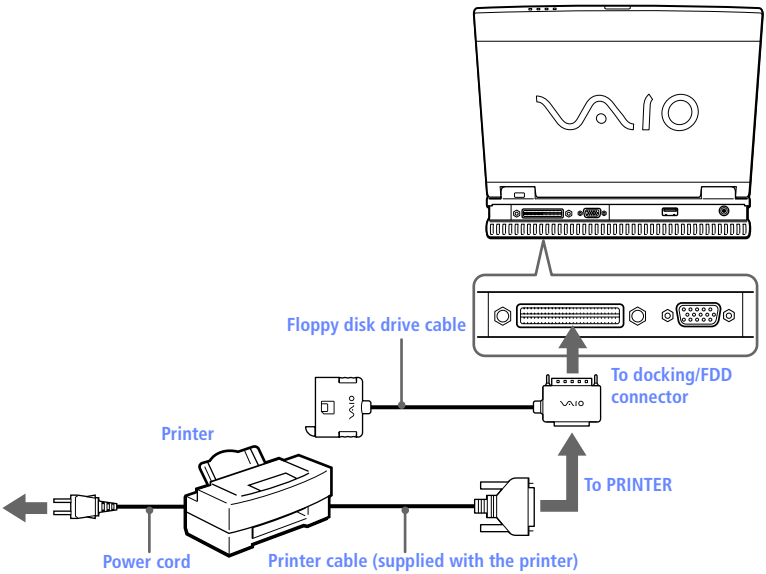
You can connect the printer to your computer using the printer cable and the supplied floppy disk drive cable to print documents.

Before using the printer

- You need to install the software supplied with the printer. See the manual that came with your printer for more information.
- You need to set up the printer's port. See *I cannot print* on page 98 for more information about setting up the printer ports.

To connect a printer

Plug the floppy disk drive cable to the docking / FDD connector on your computer. Then connect the printer cable (supplied with the printer) to the PRINTER connector of the floppy disk drive cable.



Before you connect the printer, turn off your computer, and disconnect the AC adapter and power cord from the AC outlet.

Plug the power cord after finishing all the connections.

Turn on the peripheral devices before turning on your computer.

If you are using a printer that does not support Windows 98 (PCG-XG28/PCG-XG29) or Windows 2000 (PCG-XG28K/PCG-XG29K) it may not function properly.

You can connect a printer while the floppy disk drive is in use.

When using a USB printer, connect it to the USB connector of your computer or of the USB connector of the Mini Docking Station.

Connecting an External Display

You can connect an external display to your notebook. For example, you can use the computer with any of the following:

- Computer display (monitor) (page 76)
- Projector (page 77)

Turn off your computer and all peripherals, and disconnect the AC adapter and power cord from the AC outlet before making connections.

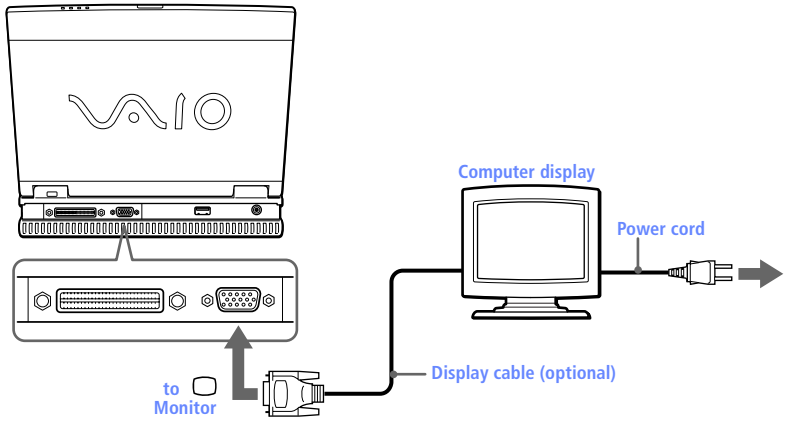
Connect the power cord after connecting all peripherals.

Turn on your computer after turning on the power of all peripherals.

When you connect an external display, you may not be able to display both the LCD and external display simultaneously, depending on the external display.

To connect a computer display

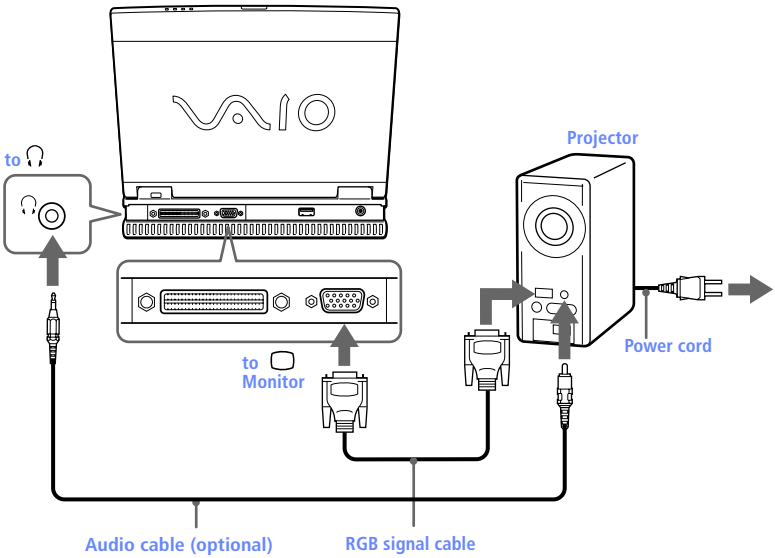
You can enhance the sound quality of your computer by connecting external speakers and an external microphone. See "Connecting External Speakers" on page 78 and "Connecting an External Microphone" on page 79 for details on connecting external speakers and an external microphone.



See the manual that came with your computer display for more information on installation and use.

To connect a projector

Using a projector connected to your computer can be convenient for presentations and slide shows.



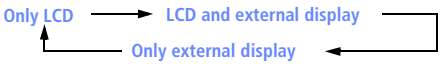
See the manual that came with your projector for more information on installation and use.

To select a display

When you connect an external display to the monitor connector, you can toggle the output among the Liquid Crystal Display (LCD), the external monitor, or both devices.

Use the Fn+F7 keys to select a display. See also "Selecting the Display Mode" in the *Customizing Your VAIO® Notebook* manual for more information.

To	Press	Result
Switch to an external display	Fn+F7	Toggles among the LCD, the external display connected to the Monitor connector, and both the LCD and external display.



Connecting External Speakers

You can enhance the sound quality of your computer by connecting external speakers.

Shut down the computer and all peripheral devices before connecting the cables.

Connect all the cables before plugging in the power cord.

Turn on the peripheral devices' power, then turn on your computer.

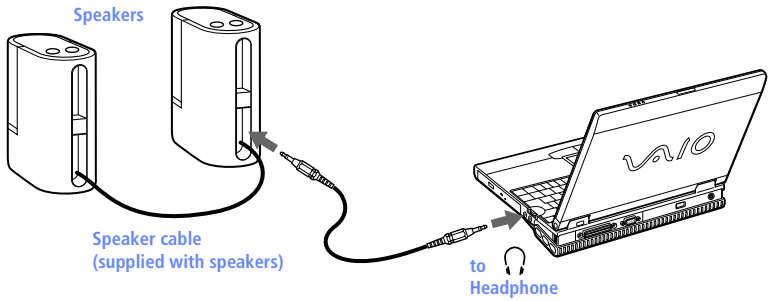
Make sure your speakers are designed for computer use.

Turn down the volume of the speakers before you turn them on.

Do not place diskettes on the speakers; the speakers' magnetic field may damage the data on the diskettes.

To connect external speakers

- Use the ∩ symbol to locate the Headphone connector. Plug the speaker cable into this connector.



See the manual that came with your speakers for more information on installation and use.

Connecting an External Microphone

You can enhance the quality of sound input by using an external microphone.

Shut down the computer and all peripheral devices before connecting the cables.

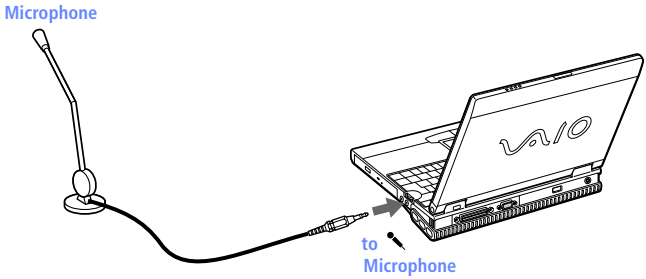
Connect all the cables before plugging in the power cord.

Turn on the peripheral devices' power, then turn on your computer.

Make sure your microphone is designed for computer use. The microphone should be compliant with the plug-in power microphone.

To connect an external microphone

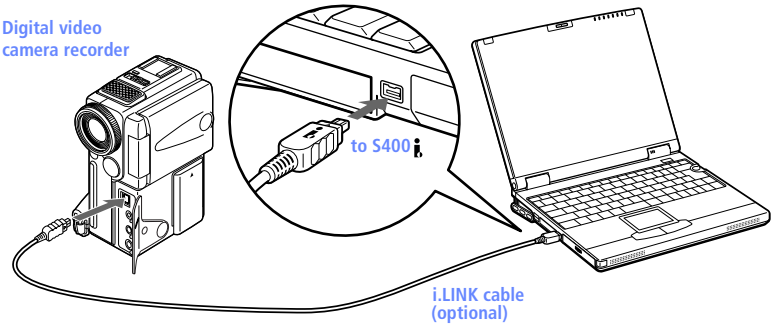
❑ Use the ✎ to locate the Microphone connector. Plug the microphone cable into this connector.



See the manual that came with your microphone for more information on installation and use.

Connecting an i.LINK®-compatible Device

You can connect an i.LINK-compatible device such as a digital video camera recorder to the S400 connector. You can then download digital pictures from the i.LINK-compatible digital video camera recorder.



The Sony digital video camera recorder is pictured; you may need to connect your camera differently.

On Sony digital video cameras, connectors labeled "DV In/Out" or "i.LINK" are i.LINK-compatible.

See the manual that came with your i.LINK-compatible device for more information on installation and use.

Do not connect more than one digital video camera at a time. The software supplied with your computer will not recognize multiple cameras.

The i.LINK connector on the computer does not supply power to external devices. If the external device requires power from the i.LINK connector, you cannot use the device with the computer.

The computer supports transfer rates up to 400 Mbps; however, the actual transfer rate depends on the external device.

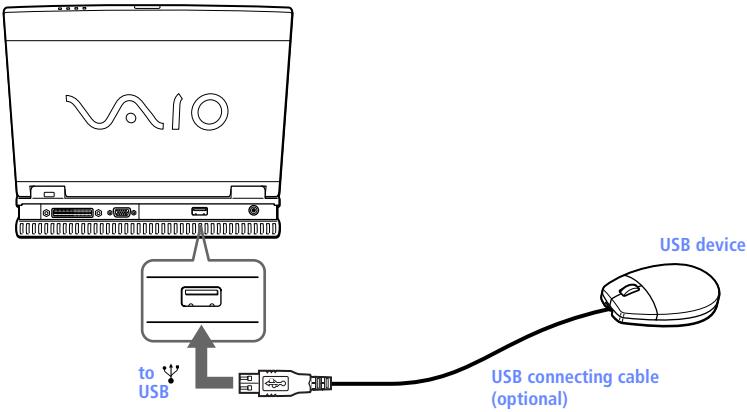
The i.LINK features available may vary depending on the software applications you use. See the documentation that came with your software for more information.

The connections and features may vary depending on the i.LINK-compatible devices. For more information on cables and connections, see "i.LINK cables" on page 49 and "Connecting an i.LINK-compatible Device" above.

You can connect the digital video camera recorder either to your notebook or to the optional i.LINK port replicator. When you connect the digital video camera recorder to your computer or an i.LINK port replicator, do not connect anything to the other i.LINK connector.

Connecting a Universal Serial Bus (USB) Device

You can connect a USB device to your computer.



You can use the optional Sony USB mouse PCGA-UMS1 with this computer. The USB mouse software driver is preinstalled in the computer. Therefore you only need to plug the USB mouse into the USB connector.

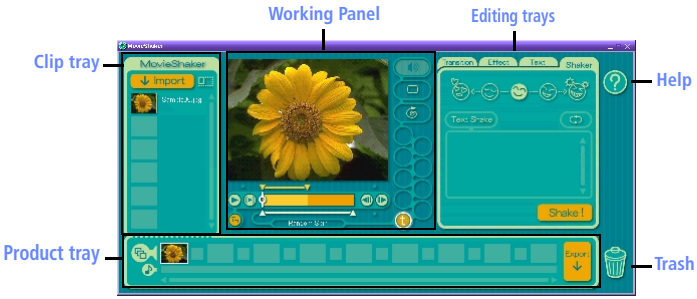
See the manual that came with your USB device for more information on installation and use.

About Your Software

MovieShaker™

This application can be used to create fun and innovative movies without any knowledge of film editing. In a few simple steps, motion pictures can be combined with special effects, still images (pictures), and music files and then saved in a format most computers can play.

Main Window



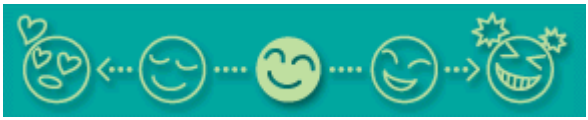
Importing Images and Sound Clips

1. Click Import.
2. Find the file you want to add.
3. Select the file.
4. Click Open. The file is added to the Clip tray.

Create a Movie using Shaker

After adding clip(s) to the Clip tray, you can create a short movie using the Shaker feature. Shaker randomly select clips from the Clip tray to create a 30-second scene.

1. Click the Shake tab.
2. Select a mood by clicking a face in the Shaker tray.



3. Click Shake !. A thirty second scene is automatically generated and saved to the Product tray.
4. To preview, switch the Work Panel to Product tray mode and press play.

Scenes created with Shaker begin with black frame and after processing are placed in the first available slot on the Product tray.

Editing Clips and Scenes

You can edit your movie by adding effects and text, adjusting the color and contrast, and modifying the length of clips.

Working Panel

Adding effects to a scene or a clip:

1. Double-click the clip or scene to move it to the Working Panel.
2. Select the Effects tab from the Editing tray.
3. Drag and drop the Effect you want to add from the Effects tray to the Effects palette on the Working Panel.

> To preview an Effect, click on the clip in the Working panel monitor. Your clip displays with the new effect on the Effect tray monitor.

4. See help for instructions on adjusting effect duration and replaying clips / scenes.

Saving a Movie

1. Verify that the clip(s) you want to save is on the Product tray. See Help for more details on saving movies.
2. Click Export.
3. Select the format in which you want the document to be saved.
4. Click Next.
5. Locate the folder to which you want the file saved.
6. Name the file.
7. Click Save.

! **Exporting movies may take a long time to complete—Save movie as DV (Digital Video) takes the longest and Quick-Save is the fastest.**

PictureGear™

PictureGear is a digital image management application that allows you to see all the images stored in any directory on your computer. Thumbnail views provide quick reminders of your pictures. Brighten, contrast, enhance, resize, crop, and color-correct your pictures. Create panoramic views, animations, screen savers, wallpaper, still pictures from MPEG, and even html photo albums.

Managing Your Pictures

Use the collection feature to manage your pictures.

1. Click the Folder tab and browse to locate your pictures.
2. Select the pictures you want to have in a collection.
3. From Collection menu, select Create New Collection.
4. Enter a name for the collection and then click okay.

Creating a Photo Album

1. Select the pictures you want to use to make an album.
2. From the Utilities menu, select Album Maker.
3. Choose the type of Album you want and click Okay.
4. Now add more pictures, frames, text, and effects.
5. When you are finished, select Create Album in File menu or click the Create Album icon on the toolbar.
6. Designate the folder you where want to save the Album.
7. Enter the Target Album name, select Thumbnails and click Okay.
8. The new album can be viewed using most Internet browsers.

Using Panorama Maker

Panorama Maker stitches a group of still images into a 360 degree panoramic picture. The source images should be the same size and overlap 20%.

How to stitch a panoramic picture:

1. Gather the source images into the same folder or collection.
2. Select the images you want to use.

> We recommend 12 landscaped or 16 portrait pictures.

3. From the Utilities menu select Panorama Maker.
4. Select the correct lens and click Okay. (If 35mm lens is selected the prompt, does not appear; to select a different lens, click the lens icon.)
5. Click the panoramic icon, near the bottom of the window.
6. Click Full Stitch.

Making Still Images and Panoramic from MPEG

1. Select the MPEG file.
2. From the Movie / Sound menu, select Scene break down.
3. Then select Movie Stitch, to create a panoramic picture.

Getting Help

Sony provides several support options for your Sony computer. When you have questions about your computer and the preinstalled software, check these sources for answers, in the following sequence:

1	*Read Me First*	Contains Frequently Asked Questions, the most up-to-date information on using your computer, and software support information.
2	*VAIO® Notebook User Guide*	The User Guide (this manual) contains information on how to get the most from your computer, find help, and solve common problems. It also contains product specifications.
3	*Customizing Your VAIO® Notebook*	The electronic document contains additional information on customizing your computer. You can access this guide from the Windows Start menu by selecting Help Center / Step 1 / Documentation.
4	Manuals and online help files that may accompany your preinstalled software	Most of the manuals for preinstalled software are located on your hard disk drive as online help files. You can access the online help files from the Help menu in the specific application. A printed manual is available for some applications.
5	Sony PC Support	Provides instant access to information on commonly encountered problems. Enter a description of your problem and the Knowledge Database searches for the corresponding solutions online. You can access the Sony PC Support at: http://www.sony.com/pcsupport

6	Sony Fax-on-Demand	This service provides you with answers to commonly asked questions. You can use this automated service to request a list of available topics and then select the topics that you want to receive. To contact the Sony fax-on-demand service, call 1-888-4SONYPC (1-888-476-6972). (Requires a fax machine or your fax software.)
7	Calling Sony Customer Support	You can call and speak with a Sony Customer Support Representative without using your computer by calling 1-888-4SONYPC (1-888-476-6972). Software support is available free of charge for 90 days after the original date of purchase.

Troubleshooting

This section describes how to solve common problems you may encounter when using your computer. Many problems have simple solutions, so try these suggestions before you contact Sony PC Support (http://www.sony.com/pcsupport).

When you reconnect devices be sure to turn off the computer as described in "Shutting Down Your Computer" on page 20. Turning off the computer using other methods may result in data loss.

My computer does not start

- Check that the computer is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the computer indicates that the power is on.
- Check that the battery packs are inserted properly and that they are charged.
- Make sure there is no diskette in the floppy disk drive.
- Confirm that the power cord and all cables are connected firmly, as described in "Connecting Peripheral Devices" on page 59.
- If you plugged the computer into a power strip or UPS, make sure the power strip or UPS is turned on and working.
- If you are using an external display, check that it is plugged into a power source and turned on. Check that the brightness and contrast controls are adjusted correctly. See the manual that came with your display for details.
- Moisture condensation may have occurred. Do not use the computer for at least one hour and then turn on the computer.
- Take the battery pack off the computer, unplug the power cord and plug it again, then turn on the power.
- When the internal backup battery is low on power, it may not be able to start your system properly. The message "Press <F1> to resume, <F2> to setup" would appear at the bottom of the display. Should this happen:

  1. Press F2. The BIOS Setup menu appears.
  2. Set the date (month/day/year). Press Enter to move to the next item. To enter 01/31/2000, for example, type 1, press Enter, type 31, press Enter, type 2000, then press Enter.

3 Press ↓ to select System Time, then set the time (hour: minute: second). Press Enter to move to the next item.

4 Press → to select Exit, then press ↓ to select Get Default Values. The message “Load default configuration now?” appears.

5 Be sure Yes is selected, and press Enter. If No is selected, press ← to select Yes.

6 Select Exit (Save Changes), then press Enter. The message “Save Configuration changes and exit now?” appears.

7 Be sure Yes is selected, and press Enter. The computer restarts.

When I turn on my computer, the message “Operating system not found” appears and Windows does not start

- Check the floppy disk drive to see if a non-bootable diskette is in the drive.
- If a non-bootable diskette is in the drive, turn off the computer, remove the diskette, and then turn on the computer again. Confirm that Windows starts properly. If Windows still does not start, follow the procedure below to initialize the BIOS.
- If the floppy disk drive is empty, follow the steps below to initialize the BIOS:

1 Remove any peripheral devices connected to the computer.

2 Turn off the computer and then turn it on again.

3 Turn on the computer and press the F2 key when the Sony logo appears. The BIOS setup menu screen appears.

4 Press the arrow keys to select the Exit menu.

5 Press the arrow keys to select “Get Default Values” and then press the Enter key. The message “Load default configuration now?” appears.

6 Check that “Yes” is selected, then press the Enter key.

7 Press the arrow keys to select “Exit” (Save Changes) and then press the Enter key. The message “Save configuration changes and exit now?” appears.

8 Check that “Yes” is selected, then press the Enter key. The computer restarts.

If your computer still displays the message “Operating system not found” and Windows does not start, contact Sony Customer Support.

(Windows 2000 only) When the computer enters and returns from power saving mode after removing the DVD-ROM drive, the "Warning of removing the devices" message appears and the device name is described as "Secondary IDE channel."

Click OK.

(Windows 2000 models only) In My Computer, an icon for the device I inserted into the multipurpose drive bay does not appear.

The device has not been recognized. Put the computer into System Idle mode by pressing the Fn and S keys and resume.

If the device is still not recognized, remove and insert it again.

My LCD does not display anything

- Check that the computer is plugged into a power source and that it is turned on. Check that the power indicator on the front panel of the computer is on.
- Check that the battery packs are inserted properly and that they are charged.
- The computer may be in LCD (Video) Standby mode. Press any key to activate the display.
- The display mode may be in external display mode. Press Fn while pressing F7 several times.

The window I have just closed continues to appear on my LCD.

Press the Windows key and D key twice to refresh the screen.

The screen image on my external display is not centered or sized properly

Use the controls on your external display to adjust the image. See the manual supplied with your display for more information.

My computer "locks up"

- Try restarting the computer. On the Windows taskbar, click the Start button, click Shut Down, and then click Restart the computer.
- If you cannot restart as described in the preceding step, you can restart the computer by pressing Ctrl+Alt+Delete.
- If the previous step does not work, press the power button and hold it for at least four seconds. This turns off the power.

Pressing Ctrl+Alt+Delete or turning off the computer with the power switch may result in data loss in files that are currently open.

My software program "locks up" or crashes

Contact the software publisher or designated provider for technical support. See the *Read Me First* for a complete list of software contact phone numbers.

My DVD-ROM drive tray does not open

- Make sure the computer is turned on.
- Press the Eject button on the DVD-ROM drive.
- If the Eject button does not work, you can open the tray by inserting a sharp, pointed object into the hole to the right of the Eject button.

I can't record on an MD using the Mini Docking Station

Click the Start button and choose Programs, Media Bar, Mini Docking Station Setup. Confirm that "Enable Mini Docking Station" is checked.

There is no sound from my external speakers attached to the Mini Docking Station while a music CD is playing in the DVD-ROM/CD-RW drive.

Click the Start button and choose Control Panel. Double-click YAMAHA DS-XG Audio Config / Digital Output. Confirm that "ON [All Sources] / analog out is muted" is checked. If this is checked, the computer does not output sound.

I cannot play a CD/DVD

- Make sure the drive is inserted correctly.
- Make sure the label of the disc is facing up.
- If the disc requires software, make sure the software is installed according to the program's instructions.
- Moisture condensation may have occurred. Leave the computer for at least 1 hour while the computer is turned on.
- Clean the disc.
- Check the speaker volume.

The pointer does not move

- Click the Start button on the Windows taskbar, and select Shut Down to display the Shut Down Windows dialog box, then press Enter.
- If you cannot turn off the computer as described in the step above, press Ctrl+Alt+Delete to restart the computer.

- If nothing occurs doing the step above, press the power button for more than four seconds to turn off the computer.
- If the pointer does not move while playing a disc, press Ctrl+Alt+Delete to stop playback and restart the computer.

When I click an application icon a message appears, such as "You must insert the application CD into your DVD-ROM/CD-RW drive," and the software does not start

- Some titles require specific files that are located on the application's CD-ROM. Insert the disc and try starting the program again.
- Make sure you place the disc in the tray with the label side facing up.

My floppy disk drive cannot write to a diskette

- If the diskette is write-protected, disable the write-protect feature or use a diskette that is not write-protected.
- Check that the diskette is properly inserted into the floppy disk drive.

My speakers have no sound

- If the built-in speakers are turned off, press Fn+F3 to turn on the speakers. You can also turn on the speakers using the Jog Dial control.
- If the speaker volume is turned to the minimum, press Fn+F4, and then press ↑ or → to increase the volume or you can use the Jog Dial control to control the volume.
- If your computer is powered by batteries, check that the battery packs are inserted properly and that they are charged.
- If you are using an application that has its own volume control, check that the volume is turned up.
- Check the volume controls in Windows.®
- If you connect external speakers, check that the speakers are properly connected and the volume is turned up. If the speakers have a mute button, make sure it is off. If the speakers are powered by batteries, check that the batteries are inserted properly and that they are charged.
- If you have connected an audio cable to the Headphone connector, disconnect the cable.

My modem does not work

- Check that the phone line is plugged into the line jack. See “Connecting a Phone Line” on page 60 for details.
- Check that the phone line is working. You can check the line by plugging in an ordinary phone and listening for a dial tone.
- Check that the phone number the program is dialing is correct.
- Check that the software you are using is compatible with the notebook’s modem. (All preinstalled Sony programs are compatible.)

My modem connection is slow

The computer’s modem uses 56K technology and V.90 capability. Many factors influence modem connection speed, including telephone line noise or compatibility with telephone equipment (such as fax machines or other modems). If you think your modem is not connecting properly to other PC-based modems, fax machines, or your Internet Service Provider, check the following:

- Have your phone company check that your phone line is free from any line noise.
- If your problem is fax-related, check that there are no problems with the fax machine you are calling and that it is compatible with fax modems.
- If you are having a problem connecting with your Internet Service Provider, check that the ISP is not experiencing technical problems.
- If you have a second phone line available, try connecting the modem to that line.

My microphone does not work

If you are using an external microphone, check that the microphone is plugged into the Microphone connector. See “Connecting an External Microphone” on page 79 for details.

My mouse does not work

- If you are using an external mouse, check that the mouse is plugged into the mouse connector. See “Connecting an External Mouse or Keyboard” on page 67 for details.
- If you connected an external mouse while your computer is on, you must restart your computer.
- If you are using an optional Sony USB mouse PCGA-UMS1 or PCGA-UMS1/A, check that the mouse is plugged into the USB connector.

My touchpad does not work

You may have disabled the touchpad while no mouse was connected to the computer. If so, you must restart the computer to make the touchpad work again.

I cannot use DV devices. The message "DV equipment seems to be disconnected or turned off" appears.

- Check that the DV device is turned on and that the cables are properly connected.
- If you are using multiple i.LINK devices, the combination of the connected devices may cause unstable operation. In this case, turn off the power to all connected devices and disconnect unused devices. Check the connection, then turn on the power again.

My touchpad interprets a single tap as a double-click

Click the Mouse icon in the Control Panel and then change the button assignments in the Mouse Properties dialog box. One of the buttons is assigned to the double-click action.

My computer does not shut down

It is best to shut down your computer using the Shut Down command on the Windows Start menu. Using other methods, including those listed here, may result in loss of unsaved data. If the Shut Down command does not work properly, follow these steps:

- Restart the computer by pressing Ctrl+Alt+Delete. If this does not work, press the power button and hold it for at least four seconds to turn off the power.
- Unplug the computer from the AC adapter and remove the battery pack from your computer.

My PC card is not working

- Make sure the PC card is compatible with Windows.
- Use the Sony Notebook Setup utility to disable devices you are not currently using.
- If you are using two PC cards, use the Sony Notebook Setup utility to disable devices you are not currently using.

The sound of my computer's fan is too loud

Use the PowerPanel utility to change the Thermal Control Strategy setting to Quiet. This setting slows down the CPU speed. See the PowerPanel Help for more information.

I cannot print

The default setting for the printer port mode is correct for most printers. If you cannot print, try changing the printer port mode. In Sony Notebook Setup, select the Printer tab. If the printer port mode is set to ECP, change it to bi-directional. If the printer port mode is set to bi-directional, change it to ECP. See "Displaying the Sony Notebook Setup Screen" in the *Customizing Your Notebook* manual for details on using Sony Notebook Setup.

The i.LINK-compatible devices connected to the Mini Docking Station do not work

Use the i.LINK connector of the computer.

The i.LINK-compatible devices connected to the computer do not work. The message "There are no Digital Video devices connected to this computer, or the power is off" appears.

Unplug the i.LINK cable and plug it again.

Power Management

The operating system may become unstable if a lower power state such as system hibernation is initiated and then changed before the operating system completely enters the lower power state. To restore the computer to its normal operating stability, close all open applications, push the power button and hold it there for four seconds or more to completely shut down the computer.

Using the System and Application Recovery CDs

The following sections describe how to use the System Recovery and Application Recovery utilities.

Using the System Recovery CD(s)

You can reinstall software titles that shipped with your computer if they are corrupted or accidentally erased. You may not need to recover the entire contents of your hard drive. If you experience a problem with your computer, reinstalling an individual device driver or software title may correct the problem. Use the Application Recovery CD(s) to reinstall individual applications or device drivers. See "Using the Application Recovery CD(s)" on page 101.

The System Recovery CD contains a backup copy of all the software originally installed on your hard disk drive. **It can be used only to recover the hard disk of the notebook you purchased.**

The System Recovery utility gives you three options:

- **Full Restore without Format** restores all the software titles that originally came with your computer without formatting the hard disk.

  If you recover your operating system using the System Recovery CD, Microsoft Word 2000 will not be recovered. Use the supplied Word 2000 CD-ROM to recover this application

- **Full Restore with Format** formats the hard disk drive and then restores all the original software.
- **Operating System Only** restores the Windows® operating system, the notebook utility programs, and the device drivers that shipped with your computer.

If you choose the Full Restore with Format or Operating System Only option, your hard disk will be formatted, which removes all the information on the hard disk drive. You will lose any software you have installed and any other files you have created since you started to use your computer. This means you will have to reinstall any applications that were not included with the computer when you purchased it. If you choose the Full Restore without Format option, you may need to reinstall applications that were not included with the computer when you purchased it. If you have any questions on using the System Recovery CD, contact Sony Customer Support.

To use the System Recovery CD(s)

1 Insert the Sony System Recovery CD in the DVD-ROM drive.

2 Shut down your computer as described in “Shutting Down Your Computer” on page 20.

3 Wait four seconds and turn on your computer.

4 Click OK to signify you have read and accept the Microsoft End-User License Agreement.

5 When the System Recovery menu appears, follow the on-screen instructions to complete the recovery process.

Your system may include one or two System Recovery CDs. If you have two System Recovery CDs, insert the first CD to run the System Recovery program. You are prompted to insert the second CD once the information from the first CD has been installed.

The recovery process takes from 30 to 60 minutes to complete.

After recovering your system using the SRCD, you may be prompted to insert your ARCD after restarting Windows. Insert the ARCD to automatically complete full recovery of your system.

If your computer does not start from the Recovery CD

1 Press the power button and hold it for more than four seconds to turn off the computer.

2 Turn on the computer. When the Sony logo is displayed, press the F2 key. The BIOS setup menu screen appears.

3 Press the arrow keys to select the Exit menu.

4 Press the arrow keys to select “Get Default Values” and then press the Enter key. The message “Load default configuration now?” appears.

5 Check that “Yes” is selected, then press the Enter key.

6 Press the arrow keys to select “Exit” (Save Changes) and then press the Enter key. The message “Save configuration changes and exit now?” appears.

7 Check that “Yes” is selected, then press the Enter key. The computer restarts from the Recovery CD.

Using the Application Recovery CD(s)

The Application Recovery CD(s) allows you to reinstall individual applications and device drivers if they are corrupted or accidentally erased. Reinstalling an individual device driver or software title may correct a problem you are experiencing with your computer, and you may not need to recover the entire contents of your hard drive. If you do need to reinstall all the software titles that shipped with your computer, use the System Recovery CD(s). See “Using the System Recovery CD(s)” on page 99.

You can also use the Application Recovery CD to install Windows NT® Workstation 4.0 drivers on your computer.

You must be in Windows to run the Application Recovery CD. The application will not run from DOS. If you have any questions on using the Application Recovery CD, contact Sony Customer Support.

To use the Application Recovery CD(s)

1. Turn on your computer. If your computer is already on, close all applications.
2. When the Windows desktop appears, insert the Sony Application Recovery CD in the DVD-ROM drive. The Application Recovery utility loads automatically.
3. When the Application Recovery menu appears, select the icon for the application you want to restore and then follow the on-screen instructions to complete the recovery process.

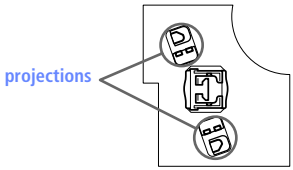
Your system may include one or two Application Recovery CDs. If you have two Application Recovery CDs, insert the first CD to run the Application Recovery program. You may be prompted to insert the second CD, depending on the application you wish to restore.

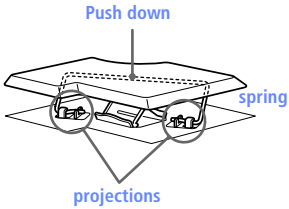
Replacing a Keycap

Place the Enter keycap, Shift keycap and Space keycap as described below. For other keys, place the keycaps in their original place and gently push down until they click.

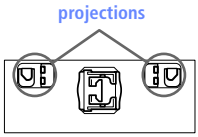
To replace a keycap

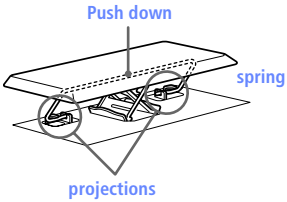
Enter Key





Shift key and Space key





Do not use force to remove the keycaps as this may result in a malfunction.

Do not push too hard on the keycaps when placing them.

Adding Memory

You can increase your system's memory by installing optional memory modules. Your system comes with 128 MB of installed memory, which can be increased up to 256 MB (128 MB x 2). You can add an expansion memory module in a slot. Up to 128 MB expansion memory modules are available as optional memory modules.

Make sure you observe the proper safety precautions when you install a memory module in your computer. See the bulleted list below. Be careful when adding memory. Mistakes when installing or removing a memory module may cause malfunction.

If you are using only one memory module, you must use the slot closest to the front of the computer.

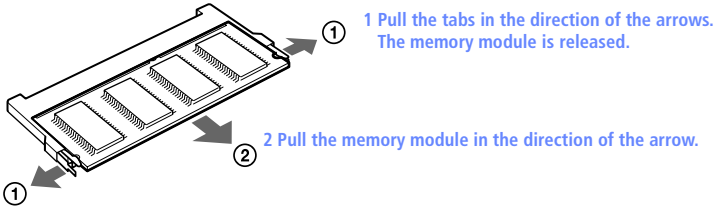
- Electrostatic discharge (ESD) can damage disk drives and other components. Perform the procedures described below only at an ESD workstation. If such a station is not available, do not work in a carpeted area, and do not handle materials that produce or hold static electricity (cellophane wrappers, for example).
- Ground yourself by maintaining contact with an unpainted metal portion of the chassis while performing the procedure.
- Do not open the memory module package until you are ready to install the module. The package protects the module from ESD.
- Use the special bag for preventing ESD or use aluminum foil when you store the memory module.

To remove a memory module

1 Follow steps 1 to 5 of "To install a memory module."

2 Touch a metal object (such as the connector panel on the back of your computer) to discharge static electricity.

3 Remove the memory module.


1 Pull the tabs in the direction of the arrows. The memory module is released.
2 Pull the memory module in the direction of the arrow.
1
2
1

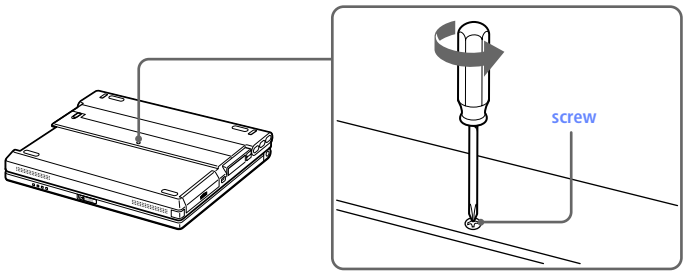
4 Follow steps 8 and 9 of "To install a memory module."

To install a memory module

1 Shut down your computer and disconnect all peripheral devices, such as your printer.

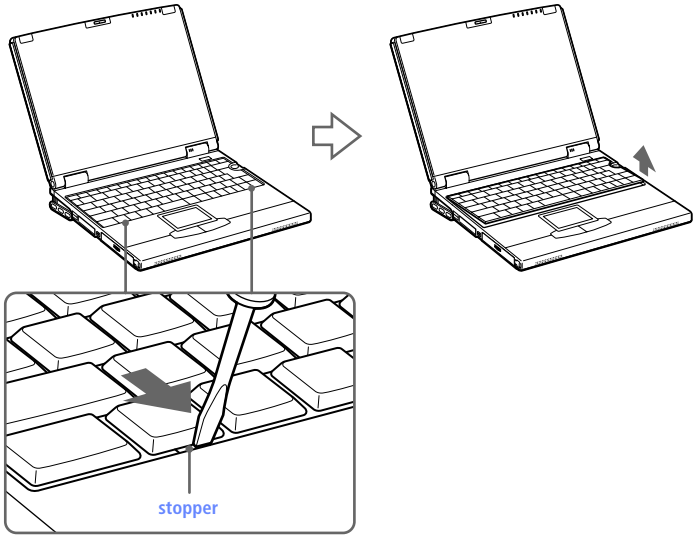
2 Unplug the computer and remove the battery packs.

3 Wait until the computer cools down. Then unscrew the screw at the bottom of your computer.

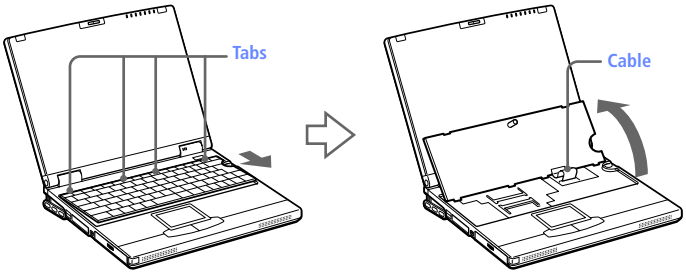


Unscrew the screw with a screwdriver of a proper size.

4 Lift the two stoppers at the bottom of the keyboard and slide the keyboard toward the LCD display, then lift it away slightly.

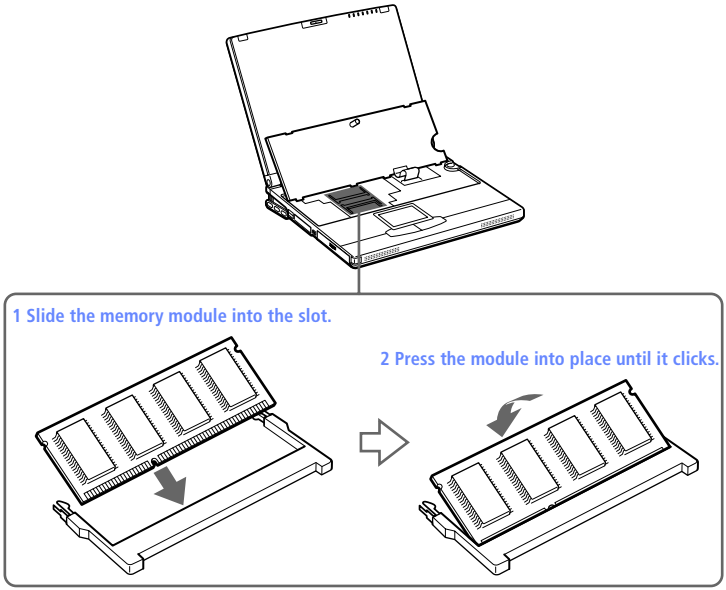


5 Lift the keyboard from the LCD display side by releasing the four tabs, then gently lean it over the display. Be careful not to detach the cable when lifting the keyboard.

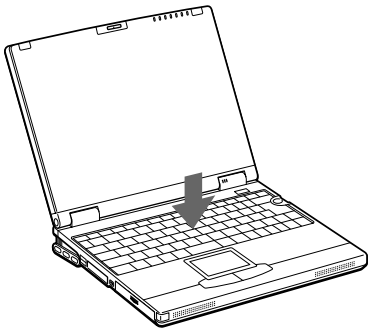


6 Remove the new memory module from its packaging.

7 Install the memory module as described in the following graphic.



8 Gently replace the keyboard, then press it into your computer. Be careful not to detach the cable when replacing the keyboard.



9 Close the computer cover, and tighten the screws on the bottom of the computer.

To view the system memory

1 Turn on the computer.

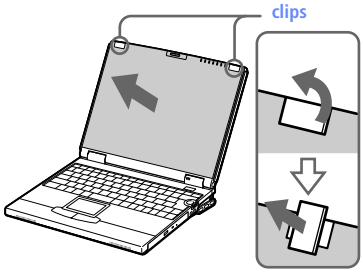
2 Click the Start button, point to VAIO, and click “Sony Notebook Setup.”

The Sony Notebook Setup screen appears.

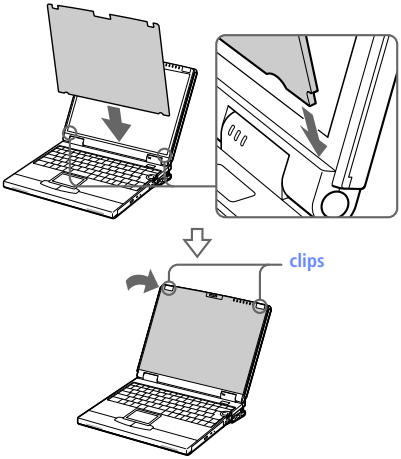
3 Click the “About This Computer” tab to view the system memory. If the additional memory is not shown, repeat steps 1-9 of “To install a memory module” on page 104.

On handling the display filter

- Remove the clips on the top of the display before removing the display filter as illustrated below.



- Hold the display filter by its sides to avoid leaving fingerprints on the display filter.
- Wipe off the fingerprints left on the display filter with the filter cleaner. You can also use commercially available cleaners.
- Do not use solvents such as alcohol or thinner, as they may cause damage to the surface of the display filter. When using other chemical solvents, read the instructions thoroughly.
- Insert the bottom of the display filter into the groove at the bottom of the display as illustrated below. Insert the display filter so that the clips' protruding parts face left, then turn 90° to lock it in place.



Specifications

Model	PCG-XG28/PCG-XG28K	PCG-XG29/PCG-XG29K
Processor	650 MHz* Mobile Intel® Pentium® III featuring Intel® SpeedStep™ technology†	750 MHz* Mobile Intel® Pentium® III featuring Intel® SpeedStep™ technology†
Hard Disk Drive	12 GB‡	18.1 GB‡
Standard RAM	128 MB PC100 SDRAM (One 128 MB module), expandable to 256 MB	
LCD Screen	13.3” XGA TFT	14.1” XGA TFT
L2 Cache Memory	256 KB (CPU Integrated)	
MPEG	MPEG2 Digital Video; supports full-screen playback	
Graphics	128-bit accelerator with 6 MB Video SGRAM, AGP, 3D acceleration	
Sound Capabilities	16-bit CD-quality stereo sound	
Diskette Drive	Removable 3.5” 1.44 MB	
DVD-ROM Drive	Reads CD data from 10.3X to 24X variable transfer rate. Reads DVD data from 1.7X to 8X variable transfer rate.**	
Laser Diode Properties	DVD-ROM drive wave length 780 nm and 650 nm laser output 77.5µW CD-RW drive wave length 780 nm, laser output 0.112mW	
Modem	56K / V.90 compatible data / fax modem††	
Infrared	Supports 4 Mbps, 1.1 Mbps, and 115 kbps IrDA Standard	
Hot-swappable Multipurpose Drive Bay	Supports: Floppy disk drive (included) Second rechargeable battery (optional) Hot / warm swap DVD-ROM drive (included), CD-RW (optional), 2nd hard disk drive (optional)	
Expansion Capabilities	Two type II PC cards and One type III PC card Card Bus support	
Built-in Capabilities	Microphone Stereo speakers Digital touch pad	
Telecommunication Capabilities	Fax send / receive	

Model	PCG-XG28/PCG-XG28K	PCG-XG29/PCG-XG29K
Connection Capabilities	USB Port S400 i.LINK AC adapter Headphone Mini docking station Infrared Microphone Type II (2) & III PC Cards RJ-11 phone jack	
Additional Connection Capabilities With Mini Docking Station (optional)	Optical digital audio output VGA monitor S400 i.LINK Mouse (PS/2® style)/keyboard Control A1 II S Video (output) Video (output) Serial port Line in Line out Two USB ports Parallel (printer) Floppy disk drive Type II (1)& III PC Cards	
Supplied Accessories	Floppy disk drive Rechargeable battery AC adapter and power cord Weight Saver FDD cable DVD-ROM drive	
Power Requirements	65 watts maximum (19.5V DC/AC 100-240V)	
Power Management	Energy Star compliant Advanced Configuration and Power Interface (ACPI)	
Battery	Lithium-ion, supports dual battery operation	
Dimensions	11.9” (w) x 1.8” (h)‡‡ x 9.9” (d) (303 x 45 x 250.7mm)	12.1” (w) x 1.8” (h)‡‡ x 10.3” (d) (308 x 45 x 261.2mm)
Weight	6.0 lbs. (2.7 kg) (with battery and weight saver) 6.4 lbs. (2.9 kg) (with battery and floppy disk drive)	6.1 lbs. (2.8 kg) (with battery and weight saver) 6.7 lbs. (3.0 kg) (with battery and floppy disk drive)

Model	PCG-XG28/PCG-XG28K PCG-XG29/PCG-XG29K
Operating Temperature	41ºF to 95ºF (+5ºC to 35ºC) (Temperature gradient less than 18ºF / 10ºC / hour)
Operating Humidity	20% to 80% (not condensed) when that humidity is less than 65% at 95°F (35°C) (hygrometer reading of less than 84°F (29°C))
Storage Temperature	-4°F to 140°F (-20°C to 60°C) (temperature gradient less than 18°F(10°C) / hour)
Storage Humidity	10% to 90% (not condensed) when that humidity is less than 20% at 140°F (60°C) (hygrometer reading of less than 95°F (35°C))

* MHz denotes microprocessor internal clock speed; other factors may affect application performance.

† The processor may be reduced to a lower operating speed when operating on battery power.

‡ GB means one billion bytes when referring to hard drive capacity. Accessible capacity may vary.

** Data on a DVD-ROM is read at a variable transfer rate, ranging from 1.7X at the innermost track to 8X at the outermost track (the data transfer standard 1X rate is 1392 kbytes/s). The average data transfer standard is approximately 2.85X or 3823 kbytes/s. A DVD-ROM drive reads data on a CD-ROM at a variable transfer rate, ranging from 10.3X at the innermost track to 24X at the outermost track. The average data transfer rate is approximately 17.15X or 2936 kbytes/s or 2576 kbytes/s.

†† Maximum speed for faxing is 14.4 kbps. Your modem is capable of downloading at 56 kpbs using K56K technology or V.90. Your online service or Internet Service Provider, however, may not support this technology or operate at this speed.

‡‡ Height measured at thickest point. Thinnest height is 39 mm.

If a region code warning appears when you are using the DVD player, it could be that the DVD-ROM you are trying to play is incompatible with the DVD-ROM drive in your VAIO Notebook. Region code indicators such as a "1" or "ALL" are labeled on some DVD to indicate what type of player can play the discs. Unless a "1" or "ALL" is labeled on your DVD or on the packaging, you cannot play the disc on this player.

Specifications are subject to change without notice.

Index

A

AC adapter **8**, **12**
AC power **12**
adding
  hardware **59**
  peripherals **59**
adjusting
  brightness **19**, **27**
Alt key **24**
Application Recovery CD **101**
Applications key **24**

B

batteries **17**
  using **17**
battery packs **8**, **13**
  charging **15**, **55**
  indicator light status **15**
  indicator lights **8**, **15**, **26**, **54**
  inserting **13**
  inserting into battery bay **13**
  loading **13**
  power status **15**
  rechargeable **12**
  removing **17**, **54**, **55**
brightness
  adjusting **19**, **27**
built-in speakers **8**
  See also speakers **27**
buttons
  Eject **35**, **36**
  left **8**
  right **8**
  Start **20**
  Start (Windows 98) **20**

C

cables
  phone **8**
  power cord **12**
canceling commands **24**
Caps Lock **8**
  indicator light **26**
CD-ROMs
  cleaning **37**
  handling **37**
charge status indicator light **15**
charging battery packs **15**, **55**
choosing
  power source **13**
cleaning
  CD-ROMs and DVD-ROMs **37**
coin-operated telephones **60**
computer **89**
  handling **7**
  lithium ion battery **v**
  setting up **8**
  starting **19**
  troubleshooting **91**, **93**, **94**
connecting
  coin-operated telephones **60**
  external speakers **78**
  hard drives **40**
  microphone **79**
  Mini Docking Station **61**, **63**
  monitor **76**
  multiple phone lines **60**
  network **40**
  party phone lines **60**
  PBX **60**
  phone line **60**

power source **12**
USB device **81**
connectors
DC In **12**
headphone **10**
i.LINK **9**
infrared **50**
keyboard **8**
Line In **9**
microphone **10**
monitor
Printer **66**
USB **10**
correction keys **24**
Ctrl key **24**
cursor-movement keys **24**
customer assistance
support options **89**

D

DC In **12**
digital still camera **50**
diskettes
ejecting **32**
handling **32**
inserting into drive **31**
troubleshooting **95**
display
options **77**
See also monitor
selecting **77**
display filter
handling **108**
disposal of lithium ion battery **v**
drives
floppy disk **8**
installing additional hard disk **40**
DVD-ROM discs
ejecting **36**
inserting **35**
DVD-ROM drive
closing tray **36**
opening tray **35**
using **35**
DVD-ROM drive tray
troubleshooting **94**
DVD-ROMs
cleaning **37**
handling **37**

E

Eject button **32**, **35**, **36**
ejecting
battery packs **55**
diskettes **32**
DVD-ROM discs **36**
electronic
documentation **89**
ergonomic considerations **5**
Escape key **24**
external devices
display **77**
See also monitor
speakers **27**, **78**

F

faxes
laws governing **v**
floppy disk drive **8**
cable **8**
disconnecting **32**
troubleshooting **95**
Fn **28**
Fn key **24**
combination commands **27**
function keys **24**

H

handling **7**
CD-ROMs and DVD-ROMs **37**
diskettes **32**
handling the LCD screen **22**
hard drives
indicator light **8**, **26**
installing additional **40**
hardware
online support **89**
headphone **8**
connector **10**
Help
Mouseware **29**
help **89**

I

i.LINK **9**
indicator lights **26**
  battery **8, 15, 26, 54**
  Caps Lock **8, 26**
  charge status **15**
  hard drive **8, 26**
  Num Lock **8, 26**
  power **8**
  Scroll Lock **8, 26**
infrared communication devices **50**
  other computers **50**
infrared port **50**
infrared transmission
  active distance **51**
  troubleshooting **51**
input devices **iv**
Insert key **24**
inserting
  battery pack **13**
  diskettes into drive **31**
  DVD-ROM discs **35**
installation **6**
installing
  hard drives **40**
  hardware **59**
  peripherals **59**
interference **iv**
internal speakers
  See speakers

J

Jog Dial control **45**
  removing **39**
  using **45**

K

keyboard **24**
  connector **8**

L

LCD
  lock lever **19**
  selecting to display output **77**
  troubleshooting **93**
LCD screen
  handling **22**
left button **8**
lever
  LCD **19**
  weight saver release **55**
Line In **9**
Liquid Crystal Display screen
  See LCD
lithium ion battery
  disposal **v**
  safety precautions **v**
loading
  battery pack **13**

M

maintenance **11**
Media Bar **94**
Memory
  adding **103**
microphone **10**
  connecting **79**
  troubleshooting **96**
Mini Docking Station **61**
modem
  laws governing **v**
  troubleshooting **96**
monitor **10**
  connecting **76**
  selecting **77**
  switching among **27**
mouse
  troubleshooting **96**
Mouse Properties screen **29**
Mouseware
  accessing help **29**
  features **29**
MovieShaker instructions **83**
multiple phone lines **60**
multipurpose bay **10**

N

navigation keys **24**
network
  connecting **40**
Notebook Computer **8**

Num Lock **8**
indicator light **26**
numeric keypad area **24**

O

online
help **89**
opening
DVD-ROM drive tray **35**
operator keys **24**
output devices **iv**

P

party phone lines **60**
PBX **60**
PC card
inserting **40**
release button **40**
removing **42**
slot protector **41**
slots **40**
troubleshooting **97**
Type III **40**
peripheral devices
connecting **59**
phone
cable **8**
connecting line **60**
jack **60**
laws governing **v**
power **26**
cord **12**
indicator light **8**
switch **10**, **19**
power saving modes **52**
System Hibernation **27**, **53**
System Idle **28**, **52**
System Suspend **53**
Video Standby **28**
power source **13**
power sources **13**
connecting **12**
Print Screen key **24**
printer
connector **66**
Printer connector **66**

R

radio interference **iv**
rechargeable battery packs **12**, **13**
recharging battery packs **15**
Recovery CD **101**
regulatory information **iv**
removing
battery packs **17**
diskettes **32**
floppy disk drive **32**
Mini Docking Station **64**
replacing
battery packs **54**
restoring data **101**
right button **8**

S

screen
See LCD
Scroll Lock **8**
indicator light **26**
second battery pack **13**, **54**
selecting
display **77**
LCD **77**
monitor **77**
power source **13**
setting up your PC
support **89**
Shift key **24**
Shut Down Windows dialog box **20**
Smart Connect
using **49**
Sony Fax-on-Demand service **90**
speakers **8**
built-in **8**
external **78**
switching **27**
troubleshooting **95**
volume **27**
Start button **20**
starting
computer **19**
startup problems **20**
switching

display **27**
monitor **27**
System Hibernation mode **27**, **53**
System Idle mode **28**, **52**
System Suspend mode **27**, **53**

T

technical support
support options **89**
touchpad **8**, **29**
troubleshooting **91**
startup **20**, **91**
turning on
computer **19**
TV
interference **iv**

U

USB
connector **10**

V

VAIO Action Setup **45**
Video Standby mode **28**

W

weight saver
attaching **54**
Windows 98
Control Panel **51**
Explorer **25**
Find window **25**
help **25**
key **24**
key combinations **25**
Start button **20**
taskbar **20**, **93**